

THE MEDICAL JOURNAL OF AUSTRALIA



VOL. I.—14TH YEAR.

SYDNEY: SATURDAY, JANUARY 29, 1927.

No. 5.

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THE OPERATIVE TREATMENT OF HIRSCHSPRUNG'S DISEASE: A NEW METHOD.

By R. B. WADE, M.D., Ch.M. (Sydney),
Honorary Surgeon, Royal Alexandra Hospital for Children, Camperdown, Sydney.

With an Explanation of the Technique and the Results of Operation.

By NORMAN D. ROYLE, M.D., Ch.M. (Sydney),
Honorary Orthopædic Surgeon, Lewisham Hospital, Sydney; Honorary Orthopædic Surgeon, State Children's Relief Board, Sydney.

P.C., a male, aged eight years, was admitted to the Royal Alexandra Hospital for Children on March 16, 1924. He had had a "fit" in the morning which lasted for two or three minutes and had been drowsy all day.

The patient had had a similar attack to this six months ago. There is no note as to previous abdominal distension or constipation.

On admission the child was found to be unconscious with occasional convulsive movements. He passed urine involuntarily. There was some abdominal distension, but there was no abnormality palpable in the abdomen.

Examination failed to reveal any disturbance of the circulatory or respiratory system. The knee jerks were increased.

On the following day the bowels were slightly opened with enemata, but the general condition was slightly worse. A day later there were good faecal evacuations and the general condition began to improve. The abdomen was still distended and a doubtful tumour was noted in each flank more evident on the right side.

The abdomen remained distended and the bowels were opened only by means of aperients.

There is no note of any peristaltic waves.

The X ray diagnosis after a bismuth enema was that of Hirschsprung's disease involving the descending and sigmoid colon.

The child improved in general condition somewhat, but bowel action was obtained only in response to aperients and on May 15, 1924, as a preliminary to a colectomy, a lateral anastomosis was carried out between the lower end of the ileum and the lowest point of the pelvic colon that could be reached.

The colon throughout was found to be dilated especially in the descending and pelvic colons where it was hypertrophied as well.

On the third day after operation the child vomited some brown, frothy fluid; there was much acetone in the urine.

He was sent to a convalescent hospital for a time. On June 19, 1924, a complete colectomy was performed. There was great dilatation of the colon, its size being many times the normal, but hypertrophy was not very evident except in the lower part of the descending and pelvic colon.

Six months later he was readmitted. There was still some distension; constipation was still present with occasional vomiting; a mitral systolic murmur had developed.

At this time a barium enema revealed considerable dilatation of the bowel for some distance above the anus, indicating that the ileum had undergone a similar dilatation to that which had previously existed in the colon (see Figure I.).

The lowest part of the dilatation was at the internal sphincter. In a skiagram after another enema some twenty months after the operation it was seen that the ileum was grossly dilated in the last fifteen to twenty centimetres (six to eight inches). Constipation was still present.

The second patient, L.W., a male, aged ten years, was admitted to the Royal Alexandra Hospital for Children on April 15, 1926. Distension of the abdomen and constipation had first been noticed when the child was two weeks of age and since then there has been distension, sometimes gross and there has always been the need of aperients or enemata to procure an evacuation.

Five years ago the boy was in hospital when the condition was diagnosed as a megalocolon. He remained under treatment for seventy-six days having enemata daily. He was discharged as "cured," but the symptoms reappeared shortly after he left the hospital.

He had vomited his food for four days before admission and had much abdominal pain.

Condition on Examination.

The abdomen was distended grossly; large coils of bowel were visible but no peristalsis was seen. A large amount of faeces was evacuated with repeated enemata. The patient became comfortable, but the abdomen remained distended and there was visible peristalsis in the hypogastric and left lumbar regions.

The distension gradually diminished and on May 5, 1926, the abdomen was nearly flat, but a peristaltic wave could always be elicited on deep palpation.

X ray examination after the administration of a barium enema showed gross distension of the pelvic and descending colon; there was no barium to be seen in the transverse colon which consequently could not be mapped out; the caecum and part of the ascending colon were seen to be greatly and evenly distended showing none of the ordinary appearance of segmentation. The knee jerks were exaggerated.

The patient had four brothers with hæmophilia, but he himself had no history of excessive bleeding.

On May 20, 1926, a specially designed lumbar sympathetic ramisection was performed on the left side; the white ramus to the first lumbar ganglion and the medial branches from the first, second, third and fourth lumbar ganglia were severed and the trunk cut across below the fourth ganglion.

A week later the abdomen was still slightly distended and aperients were being administered, their quantity being diminished daily. Fourteen days later the abdomen was flat and the bowels were being opened without aid.

Four months after the operation the bowels had been opened regularly every day without enema or aperient; the abdomen was flat, but a peristaltic wave could occasionally be seen in the hypogastrum. The general condition had improved greatly.

A further radiographic examination with a barium enema revealed the pelvic and descending colon to be still much distended, but the caecum, ascending and transverse colon were no longer distended and exhibited normal segmentation (see Figure II.).

On October 27, 1926, five months after the operation, the child's general health was good; the bowels opened regularly every day without aid; the abdomen was flat and no peristalsis was elicited.

In the skiagram after a barium enema the whole bowel is mapped out; there is less distension of the descending and pelvic colon than formerly; the ascending colon and the transverse colon are still larger than normal, but are tending to a normal shape instead of irregular distension.

Each enema consisted of a quart of solution; whereas in the first only part of the bowel was shown to be filled with mixture and a sharp shadow was not shown, the later skiagrams reveal that the same amount is able to fill and distend the whole colon and to throw a more distinct shadow, thus demonstrating that the carrying capacity of the bowel has been much diminished.

The congenital megalocolon commonly called Hirschsprung's disease has recently been the subject of two interesting papers, one by Hurst⁽¹⁾ and one by Fraser.⁽²⁾ Both these authors consider that the primary fault exists either at O'Beirne's sphincter at the junction of the pelvic colon and rectum or at the internal *sphincter ani*.

Hipsley⁽³⁾ has recently described a case definitely limited distally by the pelvi-rectal sphincter. Hurst thinks that the fault is an achalasia or absence of relaxation of one of these sphincter muscles and that the peristaltic wave to evacuate the bowels stops at one or other of these points owing to the inability of the sphincter to relax; this leads to dilatation and hypertrophy. He points out that there is no spasm of these sphincters and that a tube can be easily passed through them.

Fraser describes the failure of the sphincter to open as follows:

Occurring at a situation where a sympathetic nerve supply comes into contact with a muscular tissue provided with a parasympathetic innervation, affecting a segment of gut on the proximal side of a sphincter, associated with

hypertrophy of the muscular fibres (though in this instance the gas content of the large bowel produces a coincident dilation) the disease first becoming evident in the weeks immediately succeeding birth, this combination of circumstances suggests an aetiology similar to that of congenital hypertrophy of the ileum—an uncontrolled contractive function, a delay in the acquisition of the power of inhibition, combined, it may be, with achalasia, an insufficient relaxation of the associated sphincters.

These two writers differ merely in detail; Hurst assumes that it is a failure to relax on the part of the circular muscular fibres, Fraser that it is a delay in the acquisition of the power of inhibition. The latter is the view of the function of the sympathetic at this site taken by Gaskell and Sherrington; there is a persistence of the motor power of the sphincter, namely that of contraction, which is governed by its parasympathetic innervation; at the same time there is a lack of power to inhibit this which they believe to be the function of the sympathetic; in consequence there is the inability of the sphincter to relax or dilate.

The failure to relax might well be explained by the work of Royle and Hunter who ascribe to the sympathetic the rôle of control of plastic or postural tone; if there is uncontrolled action or overaction of the sympathetic, fixation of the postural tone and in consequence inability to relax would result. It was with this view of an overaction of the sympathetic that the operation of ramisection was undertaken to try to cut out an adequate amount of the sympathetic innervation both to the pelvic colon and also to the sphincters in order to remove the postural tone that was overacting, in at least a portion of the muscles.

I have reported the two cases as each has its points of interest, the first, that of P.C., inasmuch as the extirpation of the colon was not a cure and the dilatation reappeared in the ileum close to the anal sphincter. This gives corroboration to Hurst's theory that the fault originates at a sphincter, in this patient the internal *sphincter ani*, and that as there was found to be no spasm of the sphincter, his term of achalasia expresses the condition adequately.

In the second case, that of L.W., on whom the ramisection was performed, the immediate result would seem to bear out the view that the failure of the sphincter to relax is due to overaction of the sympathetic. It will be noted that for five months the bowels have acted unaided, whereas in the previous ten years they had never done so, that the abdomen has lost its distension, that apparently the caecum, ascending and transverse colon have nearly regained their normal size and shape, as seen by the reappearance of the segmentation. On the other hand the presence of peristalsis seen one month ago in the pelvic colon and its dilatation is evidence that the cure is not yet complete.

This communication then can only be by way of a preliminary report of an operation for the relief of megalocolon that has so far justified itself in that in one patient it has relieved symptoms and gives promise of cure. The report is made in the hope that the method may be tried by others as a

possible remedy which is without the operative risks of a colectomy and is an attempt to deal with the underlying cause. The colectomy, as has been shown in the case of P.C., may be a failure if, as is probable, the failure to relax of the sphincters persists.

Hurst considers that these cases can be cured without operation by the daily use of enemata. There is no question that by this measure relief of all symptoms except that of constipation does ensue after a time, but unfortunately when the patients become free from oversight, the trouble recurs, as was seen in the case of L.W., who was relieved from all symptoms after seventy-eight days of enemata, except that he was still unable to evacuate the bowels naturally and yet all the symptoms and signs reappeared soon after he left hospital and regular evacuation by enemata was discontinued.

Ramisection is a simple procedure, practically devoid of operative risk. It remains to be seen whether it will prove to be of value in other cases.

Acknowledgment.

I have to acknowledge my indebtedness to Dr. N. D. Royle, who saw the patient, L.W., with me and suggested the form of operation to be employed.

References.

- ⁽¹⁾ A. E. Hurst: "Addresses on Digestive and Nervous Diseases and on Addison's Anæmia and Asthma," page 123.
- ⁽²⁾ John Fraser: "Surgical Aspects of Certain Disturbances of the Involuntary Nervous System Met with in the Alimentary Tract," *The British Medical Journal*, February 27, 1926, page 359.
- ⁽³⁾ P. L. Hipsley: "Neuro-Muscular Incoordination of the Alimentary Canal in Infants: Report of Two Cases," *The Medical Journal of Australia*, August 28, 1926, page 284.

EXPLANATION OF THE TECHNIQUE AND RESULTS OF OPERATION.

The result obtained by Dr. Wade in his treatment of his second case of Hirschsprung's disease points to the possibility of a very important surgical advance. This hitherto intractable condition has apparently yielded to an operation designed to relieve the large bowel of part of its sympathetic nerve supply.

Previous Clinical Experience.

This result is consistent with that obtained by me in cases of spastic paralysis when chronic constipation accompanied the disease. In the first patient upon whom sympathetic ramisection was performed, there has persisted a striking improvement in the function of the lower bowel. This I attribute to section of the large white ramus from the first lumbar nerve to the first lumbar ganglion (see Figure IV.), since no preganglionic fibres were divided excepting this and those contained in the trunk at the level of the fifth lumbar nerve. In the ordinary operation of ramisection there are divided laterally directed postganglionic fibres to the second, third and fourth lumbar nerves and preganglionic sympathetic fibres in the sympathetic trunk below the level of the fourth lumbar nerve. It is possible that the division of preganglionic fibres in the trunk could render inert the visceral fibres of the sacral

sympathetic trunk, but the effects on the bowel are more noticeable when the large white ramus is divided.

The experience of the first patient has been repeated in a large number of cases. For example, in a series of twenty-five cases of congenital spastic paraplegia in which a bilateral sympathetic ramisection was performed, thirteen patients suffered from constipation and eleven were relieved. In a number of these a dilated colon was found at operation. In one whose colon was particularly dilated, constipation was often relieved only by means of an enema. Since operation the necessity for such a procedure has entirely disappeared.

The Operation in the Case of Hirschsprung's Disease.

The operation performed by Dr. Wade on his second patient was specially designed and was not the usual ramisection. The left lumbar sympathetic trunk was chosen as the point of attack because of its greater accessibility and because of the possibility of producing a greater effect upon the descending and the pelvic colon than by operation on the right side. The operation designed and carried out is illustrated in the accompanying diagram (see Figure IV.). The places of section are marked by a cross. These are: (i.) The white ramus from the first lumbar ganglion, (ii.) the medially directed postganglionic fibres from the abdominal sympathetic trunk, (iii.) the abdominal sympathetic trunk. This was divided below the level of the fourth lumbar nerve.

The last procedure rendered inert the visceral fibres from the sacral portion of the sympathetic trunk.

It will be seen that the operation carried out by Dr. Wade differed from an ordinary ramisection in this respect. He divided the medially directed fibres going to the hypogastric and inferior mesenteric plexuses and not the laterally directed *rami communicantes* of the second, third and fourth lumbar nerves. Especial care was taken, however, to see that the large white ramus referred to above was divided.

The Explanation of the Results.

Authorities differ regarding the nerve supply to the great bowel, but the most satisfactory view is that of Gaskell. The large bowel is supplied by both the sympathetic nervous system and by the parasympathetic pelvic nerve. The pelvic nerve is concerned with the movements of the bowel, while the sympathetic nerves are described as inhibitors of bowel action and to them is also attributed the function of controlling the sphincters of the bowel. For example, Elliott has shown that the sphincter at the ileo-caecal junction contracted when the splanchnic nerves were stimulated. The various other sphincters described in the large bowel are probably also controlled by the sympathetic nerves. Of a special interest in Hirschsprung's disease is the sphincter between the pelvic colon and rectum and the internal *sphincter ani*. Langley and Anderson found that the latter was controlled by sympathetic nerves from the thoraco-lumbar outflow.

The view that the sympathetic nerves are inhibitors of bowel action is interesting when considered in the light of the action of the sympathetic nerves on ordinary voluntary muscles. When sympathetic activity is excessive, there is a tendency for the positions imposed by active contractions to be maintained and the patient experiences difficulty in inhibiting the active contraction of the muscle groups. The disappearance of this phenomenon is a very positive and constant result of the operation of sympathetic ramisection. If such a view were applied to the large bowel, the excessive action of the sympathetic might inhibit the muscular activity set up by the pelvic nerve, but it might also be considered the factor fixing posture of the bowel. In other words the inhibition may be an expression of a positive act maintaining the bowel in a definite posture, such as, for example, dilatation with contraction of the sphincter muscles.

Under normal circumstances the pelvic colon is gradually dilated by the bowel contents and the bowel is evacuated when the contents reach the rectum. In Hirschsprung's disease and in spastic paralysis excessive action of the sympathetic fixes any posture which is imposed, or fixes the increased amount of distension caused by the accumulation of bowel contents.

In the control of our voluntary muscles we learn to change position by affecting the state of contraction in the various muscle groups, but once a position has been attained, we cannot make that position any more or less rigid. The upper eyelid when open, for example, maintains a posture which is apparently independent of our voluntary intervention, for we cannot make it any more or less fixed.

In spastic hemiplegia this is accentuated and the patient finds difficulty in closing the affected eye without closing the opposite one also. This difficulty disappears after cervical ramisection.

In the bowel we have no definite control over movements excepting with regard to defaecation when we can relax the sphincter and assist the bowel contents into the rectum. When, however, sympathetic action becomes excessive, the state of contraction of the bowel musculature cannot be altered on account of the excess of plastic tone and a chronic dilatation results. When the action of the sympathetic nerves is reduced by an appropriate operation, this active dilatation is inhibited and the bowel movements can then be resumed.

The sympathetic nerves are inhibitors of the action of the bowel, but possibly the original physiological sense is not quite accurate. It may be that their action is to fix the posture imposed mechanically by the bowel contents. Starling ("Principles of Human Physiology," 1920) stated that it is impossible to obtain any movements in the exposed small intestine as long as this remains connected with the central nervous system through the splanchnic nerves and Hunter showed that the dilatation of the bowel which follows transverse section of the cord, could be relieved by cutting the

splanchnic nerves to the great bowel (THE MEDICAL JOURNAL OF AUSTRALIA, January 26, 1926).

Acute dilatation of the bowel, therefore, may be assumed to be an active condition and not merely an inhibition of the nerves controlling the movements of the bowel. In Hirschsprung's disease it is possible that a prenatal condition persists, because of the lack of necessity for movement of the bowel before birth. In the two cases recorded by Dr. Wade it is interesting that both patients exhibited an exaggeration of the deep reflexes similar to that seen in persons with spastic paralysis.

Comments on These Results.

The result obtained by Dr. Wade has been reproduced in my series of cases, in conditions which resemble Hirschsprung's disease in so far as the difficulty in evacuating the bowel is concerned, by section of the white ramus to the first lumbar nerve and by dividing the sympathetic trunk. This result was undoubtedly enhanced in Dr. Wade's case in a much more serious condition by dividing the medially directed fibres from the abdominal sympathetic trunk.

The application of ramisection to Hirschsprung's disease and the effect obtained by this treatment open up great possibilities. Persistent constipation can with certainty be relieved by a safe operation and visceroptosis may be shown to respond to the same procedure.

AN ESSAY RELATING CHIEFLY TO ANÆSTHETICS AND THEIR INTRODUCTION TO AUSTRALIA AND TASMANIA.¹

By NORMAN J. DUNLOP, B.A., B.Sc., M.B., Ch.M. (Sydney), Sydney.

FOREWORD.

PAIN, although it is a warning signal which, if its significance be correctly interpreted, will often prevent disaster, is and always has been regarded by the whole organic universe as an arch-enemy to be conquered or at least controlled. Ever since man became a reasoning animal, he has been working out inventions for the elimination of pain. With this end in view soporific potions, narcotic drugs, the soporific sponge, heat, cold, mechanical devices, mesmerism, vapours of various kinds and other means have been used at one period or another. Some of them out of mere caprice or for some more cogent reason have been discarded; they had their vogue—shorter or longer—and then ceased to be. Others have stood the test of time and are with us still. Although a great measure of success had been attained in other conditions, the pain of operations and the anguish of parturition practically defied human effort till the year 1846. The idea of anæsthesia is as old as man himself. Adam was the first man of whom we have any record to be operated on under a general anæsthetic. We read in the second chapter of Genesis, at the twenty-first verse:

And the Lord God caused a deep sleep to fall on Adam and he slept: and He took one of his ribs and closed up the flesh instead thereof.

Anæsthetics, as we know them, are the product of quite modern research, for there are some people still living who were born before the days of anæsthesia and, by the way, it is interesting to note that the terms "anæsthetic" and "anæsthesia" were suggested by the charming author of the "Professor at the Breakfast Table"—Oliver Wendell Holmes. The only anæsthetics to which I shall briefly allude, will be ether and chloroform.

Ether.

Although the alchemist Raymond Lully (1235-1315) had some knowledge of ether in the thirteenth century, sulphuric ether (*oleum dulce vitrioli*) was independently discovered by Valerius Cordus, a young Prussian genius, in 1540. Michael Faraday in 1818 demonstrated that anæsthesia could be induced by the inhalation of ether vapour. In March, 1842, Dr. Crawford W. Long, a graduate of the University of Pennsylvania in America, was the first to use ether as an anæsthetic. He anæsthetized a patient with the drug and removed a small cystic growth from the back of the neck. But it is to Dr. William Thomas Green Morton (1819-1868), of Charlton, Massachusetts, that we must give the honour of practically demonstrating the anæsthetic properties of ether.¹ In 1846 Dr. Morton successfully anæsthetized two patients on whom Drs. Warren and Hayward, two of the leading surgeons of Massachusetts, operated. Dr. Warren excised a vascular tumour of the neck on October 16 and Dr. Hayward removed a lipoma of the shoulder on October 17, 1846.

The success of these operations and a paper in the *Boston Medical and Surgical Journal* by Henry J. Bigelow—announcing the discovery firmly established the reputation of ether as an anæsthetic. The news spread rapidly and in the years 1846 and 1847 we read of Robert Leston, J. Young Simpson, Syme, Ferguson, Pirogoff and others operating on patients rendered insensible by ether vapour.

Chloroform.

The story of the discovery of the anæsthetic properties of chloroform reads like a romance. Discovered independently by Liebig in Germany, Soubeiran in France and Guthrie in America during the years 1831 and 1832, chloroform was first obtained in the pure state and named by Dumas in 1834. How long the characters of chloroform would have remained undiscovered, had Simpson been satisfied with the recently introduced anæsthetic, will never be known. But Simpson was not satisfied; he was well aware of the defects of ether; it had a disagreeable smell and taste; it irritated the bronchial mucous membrane; the apparatus used in its administration was cumbersome and a large quantity of the drug had to be used in prolonged cases. He therefore set himself the task of

¹ Read before the section of Medical History and Literature of the New South Wales Branch of the British Medical Association on July 22, 1926.

¹ Dr. Jackson and Dr. Wells, both of America, also claimed this honour.

discovering a better "drowsy syrup" than that which was introduced by the Americans. To accomplish this he and his assistants, Drs. George Keith and Matthews Duncan, met nightly at his house to inhale the vapours of different volatile fluids having fragrant and agreeable odours, hoping to light upon the ideal anæsthetic. They tested many specimens, but none gave entire satisfaction; they tested more with the same result and disappointment and failure seemed inevitable. This point was reached when a Linlithgowshire man, named Waldie, came to the rescue. He suggested that they should try perchloride of formyle, a pleasant smelling, volatile, narcotic fluid, which he knew from his own experience would produce results. He promised to send some to Simpson, but the specimen did not arrive, so Messrs. Duncan and Flockhart, a firm of Edinburgh chemists, supplied the drug. It has been claimed and I think the claim is quite just, that Waldie and not Simpson should have the credit of discovering the anæsthetic action of chloroform. In *The Sydney Morning Herald* for October 27, 1923, there is to be found an article on Dr. David Waldie and his work written by Alexander Spence, which, I think, demonstrates quite clearly that the Linlithgowshire man deserves recognition. From this article I shall quote one or two passages:

Dr. David Waldie was a native of Linlithgow, having been born in that town on February 27, 1813. He studied medicine at Edinburgh and, having graduated Licentiate in Surgery of the Royal College of Surgeons, Edinburgh, practised for some time as an apothecary in his native town. He had, however, a stronger leaning to chemistry than to medicine or surgery. He performed numerous experiments of a dangerous nature and gave the *coup de grace* to the then lingering theories of combustion and combustibles. Reference to these experiments can be seen in Givenlin's "Chemistry." He later went to India, where he founded a chemical factory. Dr. Waldie first discovered the anæsthetic properties of chloroform in 1845-1846 at his shop in Linlithgow after numerous experiments and persuaded Sir James Y. Simpson to try it in 1847. Waldie died in Calcutta in 1889. In 1913 a movement was started to place a memorial tablet over the premises in which the discovery of the anæsthetic properties of chloroform was made, to commemorate the centenary of Waldie's birth. As a result of the appeal for subscriptions a sum was raised which enabled the promoters of the movement to affix a handsome bronze portrait memorial tablet over the doctor's old premises in 67, High Street, Linlithgow. The wording below the portrait is as follows: "David Waldie, Surgeon, L.R.C.S., and Chemist, Member of the Asiatic Society, Bengal, B. Linlithgow 1813; D. Calcutta 1889. A Pioneer in Anæsthetic Research. To him belongs the distinction of having been the first to recommend and make practicable the use of Chloroform in the Alleviation of Human Suffering."

But James Young Simpson took nothing for granted; he conducted his own experiments and reached his own conclusions. It was he, too, who first demonstrated the use of chloroform in practical surgery. Messrs. Duncan and Flockhart, the chemists who supplied Simpson with chloroform for experimentation, were for many years the chief manufacturers of this anæsthetic and an excellent preparation it was. The older members of the profession will recall the time when this firm's chloroform was the one almost universally used. I well remember their bottle; it was so well sealed up.

Some anæsthetists, I recollect, used to put a quantity of a compound of lime into the liquid to prevent decomposition. The first sample of chloroform received by Simpson did not appeal to him as a drug suitable for his purpose, "it was such a heavy unvolatile like liquid"; so it remained in his house several days before he put it to the test. During the period of research and experimentation Professor Miller who lived hard by, used to call at Simpson's house every morning to see if his friends had survived. November 4, 1847, is memorable in the history of chloroform; it was on this night that the drug was first used. Some other compounds had been tried and found wanting, when the phial containing the chloroform was unearthed from its hiding place among a pile of papers and its contents divided equally among these three torch bearers. What happened, two of the actors in the drama—Simpson and Keith—will tell us. The professor writing to Mr. Waldie says:

I am sure you will be delighted to see part of the good results of our hasty conversation. I had the chloroform for several days in the house before trying it . . . The first night we took it, Dr. Duncan, Dr. Keith and I all tried it simultaneously and were all "under the table" in a minute or two.

Dr. Keith's version is slightly different. Writing to Miss Simpson, the professor's daughter, in 1891, he tells her this story:

I began to inhale it (chloroform) a few minutes before the others. On seeing the effects on me and hearing my approval before I went quite over, they (Simpson and Matthews Duncan) both took a dose and I believe we were all more or less "under the table" together, much to the alarm of your mother who was present. We did not take the chloroform simultaneously; this with a new substance to try would have been foolish.

Professor Miller also gives an account of the coming of chloroform; his narrative is good and I shall repeat it:

These experiments were performed after a long day's toil was over; at late night or early morn and when the greater part of mankind were soundly anesthetized in the arms of common sleep. After a weary day's labour the trio sat down . . . the tumblers were then charged with chloroform and the inhalers resumed their occupation . . . a moment more then all was quiet, and then a crash! On awakening Simpson's first perception was mental. "This is far stronger and better than ether," said he to himself. His second was to note that he was prostrate on the floor, and that among the friends about him there was both confusion and alarm. Of his assistants Dr. Duncan he saw snoring heavily and Dr. Keith kicking violently at the table above him. They made several more trials of it that eventful evening and were so satisfied with the results that the festivities of the evening did not terminate till a late hour—3 a.m.

So chloroform was born at 3 a.m., November 5, 1847, at the house of Professor J. Y. Simpson, 52, Queen Street, Edinburgh. Although his "drowsy syrup" did all that he had claimed for it and although he was prophetic when, holding up a small bottle of chloroform, he said: "The contents of this will turn the world upside down"; yet he had to fight and win a long, drawn out battle against prejudice, bigotry, abuse and misrepresentation before the world was convinced of the blessings of chloro-

form. On November 15, only ten days after its birth, chloroform was used at the infirmary when three patients were successfully anæsthetized and operated upon. On this occasion there was present as an interested spectator Dumas, the great Frenchman with whose name chloroform will be for ever associated. A previous demonstration had been arranged for, but press of work had kept Simpson from his appointment. Fortunate was this for the reputation of the professor and the future existence of his newly born child, because the patient died on the table after the first incision of the knife.

ETHER IN AUSTRALIA.

Between 1844-1846 Morton in America used ether to extract a deeply rooted bicuspid tooth; on October 16, 1846, he anæsthetized a patient while Dr. John C. Warren operated; in December, 1846, Robert Liston in London, using ether, amputated a thigh; in 1847 Ferguson in King's College Hospital in London and Syme and Simpson in Edinburgh had their first experiences of the effects of the drug. In the same year, too, here in Australia our own surgeons were using ether as an anæsthetic in their work. Charles Nathan, F.R.C.S. (England), surgeon; John Belisario, D.D.S., dentist, and William Russ Pugh, M.D., surgeon, share equally the honour of introducing anæsthetics to Australia and Tasmania. The first two lived in Sydney, New South Wales; Dr. Pugh was surgeon to Saint John's Hospital in Launceston, Van Diemen's Land. It is just and becoming that we should remember these men and their work; their names should last for all time. A brief biographical sketch of each of these pioneers will, I think, be quite appropriate here.

Charles Nathan.

Born in the year 1816, Charles Nathan inherited neither influence nor money. At the age of thirteen years he was at work earning a living and from that time on had to be the master of his own destiny. Choosing the healing art as a profession he entered Westminster Hospital, London, as a student, where by the combination of hard work and great natural ability he had a very successful career, carrying off several prizes and other honours. In the year 1837 he passed the examinations necessary for the qualifications of member of the Royal College of Surgeons and licentiate of the Society of Apothecaries (or L.A.C. as it was then called). For the excellence of his work and his high reputation as a surgeon, the Royal College of Surgeons of England conferred on him in 1857 an honorary fellowship. Charles Nathan commenced the practice of his profession in Sydney in 1842 at the age of twenty-six years and for the next thirty years he worked almost incessantly. His mental gifts and his magnetic personality made him popular among the members of the profession; while in the sick room his kindly smile and words of cheer brought a feeling of comfort and confidence to many weary pieces of broken humanity. A recognized *connoisseur* of art, a musician of no mean order, a conversationalist both

brilliant and witty and a jolly good fellow all round, he was a charming addition to any social gathering. His photograph in Watsons "History of the Sydney Hospital" confirms any written testimonial of his virtues. In his profession he attained to the highest position. His activities were many. When the Sydney dispensary took over the south wing of the Macquarie Street Hospital in 1845 and became the Sydney Infirmary and Dispensary, Charles Nathan became one of the first surgeons to that institution. He was on the active staff for twenty years; then he was appointed Consulting Surgeon and retained this position till his death. He was Consulting Surgeon also to Saint Vincent's Hospital and Honorary Surgeon to the Sydney Female Refuge. In addition he was a member of the Senate of the University of Sydney, a fellow of Saint Paul's College, an examiner in medicine at the University of Sydney, Vice-Chairman of the Board of Directors of the Australian Mutual Provident Society, a prominent member of the Australian Medical Association and of the Australian Medical Subscription Library. At the time of his death he was assisting in framing a medical bill which had he lived he would have used every effort to get passed into law. Another scheme which he was anxious to effect was the formation of a scientific medical society in Sydney. Constantly exposed to the risks of a surgeon, Charles Nathan at last fell mortally wounded in the front line trenches. Six weeks before he died he lacerated one of his fingers while performing an operation on a "dirty case." He became infected, general septicæmia followed and the end came after much suffering on September 20, 1872. He died at his home in Macquarie Street north and was buried in the Newtown Cemetery. In St. James's Church, King Street, Sydney, there is a mural tablet to the memory of Dr. Nathan, on which may be read this inscription:

Charles Nathan, Esq., F.R.C.S.
Warden and Trustee of this Parish.
Rested from his labours Sep. 20, 1872.
This tablet is erected by his fellow
parishioners to mark their respect for
the character and regret at the loss of
a kind friend and true christian
gentleman.

John Belisario, D.D.S.¹

John Belisario, for many years the father of the dental profession in Sydney, was born in the year 1820 at Cheltenham in England, but was of Spanish extraction, both grandparents being Spaniards. His people were in prosperous circumstances, so his youth was passed in an environment comfortable if not luxurious. As a child he was delicate and the state of his health was the cause of much anxiety to his parents, who feared that he was one of those whom the gods love. At the age of sixteen years he was ordered a sea voyage to escape the rigour

¹ The information for the biographical notice of Dr. Belisario was obtained from Mr. Blackwell's narrative of this eminent dentist.

of the English winter. He went to the West Indies, where his uncle had a plantation. Here the pleasant surroundings, the mild climate, the wide spaces and the glorious sunlight wrought such a miracle that after a year's free and easy life he returned home well set up and thoroughly restored in health. Dr. Belisario served his apprenticeship in England and during the period of his pupilage "walked" the wards of Saint Thomas's Hospital, London. His articles expired when he was twenty-one years of age and shortly afterwards he migrated to these lands. He left England in the ship *Fairlie* and arrived in Sydney shortly before or after Dr. Nathan. When and under what circumstances these two kindred spirits met I have been unable to discover. In his early twenties John Belisario found himself a stranger in a strange new land where the climate was mild, money easily acquired and the white ant of laziness and incompetence a real menace; but in spite of these seductive influences he remained an ardent student and a tireless worker. These habits of industry, early formed, were characteristic of him throughout his long life. He started practice in Princes Street, but in 1844 he moved to Spring Street, where he occupied a commodious cottage next to the residence of Sir Saul Samuel. It was in the Spring Street house that ether was first administered in Australia in 1847. In his later years Dr. Belisario's rooms were in Lyon's Terrace, Liverpool Street. His practice was enormous, including many wealthy clients from the remotest parts of Australia and across the seas. It has been stated that in his best days his income exceeded £7,000 per year. His reputation was wide and his name was well known to the leading dentists both in England and America. From the University of Baltimore he received the Doctor of Dental Surgery degree in 1854. His hobby outside his profession was collecting art treasures and pictures. He died on June 17, 1900.

William Russ Pugh, M.D.

William Russ Pugh arrived from London at Hobart Town on December 11, 1835, by the barque *Derwent*. In 1836 he settled in Launceston, where he started private practice. In 1841 he was appointed as Immigration Officer for the port in connexion with Henry Dowling, Shipping Agent. This position he held till 1844 when owing to a cessation of "Bounty" immigration the office was abolished. About the same period he received the appointment of Government Health Officer. On September 26, 1843, William Pugh became a justice of the peace and as a magistrate he took his duties seriously. In local politics he took a lively interest, throwing in his influence on the side of the anti-transportationists. It was owing chiefly to Dr. Pugh's exertions that Saint John's Hospital, Launceston was built. This institution was formally opened on September 1, 1845, and it was here in 1847 that he did his pioneering work in connexion with anæsthesia. The object of the hospital was to give medical assistance to the free working classes, though single rooms were reserved for casual resi-

dents—notably ships' officers. The Lieutenant-Governor was patron, while the Chief Justice and the Bishop acted as vice-patrons. The management consisted of a committee of six persons. Dr. Pugh was medical officer and first superintendent, which position he continued to hold till he left the colony. The hospital fees were too small for a self-supporting institution so in 1851 Dr. Pugh wrote to the Colonial Secretary suggesting that the subsidy for pauper patients, for whom a few beds had been reserved by arrangement with the Government since 1849, should be doubled, as the hospital was in financial difficulties and would probably have to close down if help were not forthcoming. In 1850 he brought under the notice of the Government the necessity of providing a "workhouse" for old and infirm paupers who were beginning to be a drag on the community. The Governor thanked him for his suggestions in connexion with the project, but stated that the subject was too big for the then condition of the Treasury. In 1850 he was given leave of absence and supplied with a certificate stating that his services to the Government had always been satisfactory, that his character as a gentleman and his skill as a medical officer were unimpeachable. In 1854 he resigned his appointments and left Tasmania by the *St. Clarence* for Melbourne. Just prior to his departure from Launceston a public valedictory meeting was held in the Town Hall at which he was presented with an address and a purse of gold. Dr. Pugh was a frequent contributor to the medical press.

Psychology and Progress.

One phase of human psychology that has always evoked my admiration, wonder and interest, and at times has puzzled me, is the readiness, nay the delight, with which people take risks. Anything, from rat-catching during a visitation of the bubonic plague to negotiating the Niagara Falls in a barrel or record-breaking at a speedway, is welcome; the greater the hazard, the greater the attraction. Adam Lindsay Gordon, that dare-devil beggar who took all sorts of risks and revelled in them, tells us in "Ye Wearie Wayfarer," that

No game was ever yet worth a rap
For a rational man to play,
Into which no accident, no mishap,
Could possibly find its way.

And this love of adventure is good; it makes for progress and keeps a nation virile. If ever the time arrives—let us pray that it will never come—when defiance of danger ceases to be one of our national characteristics, then: "Good-bye to the Anglo-Saxon Race! Farewell to the Norman Blood!"

When ether was added to the medical armamentarium, therefore, there was no lack of volunteers, heroes, or if you will material, upon whom or with which the early anæsthetists could experiment. The name of the first person to be anæsthetized in Australia has gone into oblivion and perhaps it is wise to let it remain there, for I am sure, if we were to set out to find out who that individual was, we should discover that his name

was legion. I well remember when I started in practice, I was astonished to find that no fewer than fifty people—men and women—were “the very first patient” of my predecessor.

Dr. Nathan's Letter.

In a letter addressed to the editors of *The Sydney Morning Herald* which appeared in the issue of that paper for June 15, 1847, Charles Nathan, surgeon, proclaimed to the people of Australia the gospel of the conquest of pain by the inhalation of the vapour of sulphuric ether. The good news was received variously. Among the members of the profession there were some—of whom the editor of the *Australian Medical Journal* was one—who shook their heads dubiously and predicted a very short life for this new American fad and there were others, convinced that a new era was dawning, who threw in their lot with the pioneers. The general public, that irresponsible majority which is ever ready to give its verdict on any subject however recondite, also “heard the word gladly.” I reproduce here Dr. Nathan's letter:

To the Editors of *The Sydney Morning Herald*.

Gentlemen, it having been asserted and by some persons believed that the inhalation of the vapour of ether is dangerous, and that the surgeon who permits its use is careless of the welfare of his patient, allow me through your columns to state that I have within the last few days witnessed nearly forty painless operations from it, having myself inhaled before I experimented upon anyone, and in no instance did any mischief or even unpleasantness follow. The numerous cases recorded in the journals of England and Ireland establish the same fact—that the inhalation of the vapour of ether is harmless. In experimenting for surgical purposes I had one gentleman twenty-two and a half minutes in a state of perfect insensibility to pain and his observation on recovery was that he would never have a tooth drawn again without first undergoing the same process. The effects of this great discovery have been witnessed by many persons of the soundest judgment, among whom I will venture to name Messrs. Michie, Holroyd, Kemp, Alderman Allen, M.C., Colonial Surgeon Richardson and doctors Silver and Cox; and I would advise those who have any doubt and feel an interest in the subject to pay a visit to Mr. Belisario, who will be happy to give them an opportunity of forming their own opinion.—Charles Nathan, Elizabeth Street North, June 14.

Quite naturally, when ether was introduced as an anæsthetic, its sphere of usefulness was at first circumscribed; short operations only—teeth extractions, incisions into abscesses *et cetera*—were performed. The patient was rendered insensible, then the inhalation was discontinued and the dentist or surgeon had to do his work before the effects of the drug had worn off. With fuller knowledge, of course, came an extended field of influence. It was fortunate for its own good name that in the pioneering days ether was not given to one of these alcoholics who came later and created such a pandemonium during the stage of excitement. Imagine the scene of an alcoholic young giant intoxicated with ether in the “parlour” of an early dentist or the consulting room of one of our surgical grandfathers—wreck and ruin everywhere, the ether apparatus smashed to smithereens, the patient wildly gesticulating and bellowing like a son of Thunder and the scared anæsthetist in a corner of

the room uncertain whether to calm the wretch with a stroke from a club or send for the assistance of a policeman.

Dr. Pugh's Testimony.

At the very time that Mr. Nathan and Mr. Belisario were experimenting with ether in Sydney, William Russ Pugh at Launceston, in Van Diemen's Land, was operating on patients anæsthetized by the vapour of the same drug. In a letter to the editor of the *Australian Medical Journal* dated Launceston, June 7, 1847, he says:

Sir: As it may be of interest to your readers to receive local testimony in addition to the published reports of cases, in which surgical operations have been divested of the usual suffering attendant on such proceedings by the use of ethereal inhalation, I beg to furnish you with the results of a trial of this novel discovery made at St. John's Hospital today, the results which, although to a certain extent incomplete, were so far so satisfactory as to justify an opinion that a large amount of suffering hitherto experienced by the patients may be superseded, and that many operations can be performed during the stage of unconsciousness which is so readily induced. I employed a part of Nooth's apparatus in the manner delineated in the *Illustrated London News* of the 9th June (the date should be January 9 not June 9) and I found it in every respect suited to the purpose.—Yours most obediently, W. R. Pugh, M.D.

The *Illustrated London News* for January 9, 1847, contains a picture of the lower part of Nooth's carbondioxide apparatus. This was the apparatus used by Dr. Pugh in St. John's Hospital. I have no doubt Dr. Nathan used this apparatus also, for although he does not put a name to his mechanism, he mentions certain details which make it extremely likely that Nooth's was the apparatus first used in Sydney. I have had this illustration photographed to show you the rude forefather of the almost perfect instrument used now.

Description of the Apparatus.

From the *Illustrated London News* we learn:

The apparatus consists of the lower part of Nooth's apparatus, with a flexible tube to which are attached a ball and socket valve and mouthpiece similar to those used in inhalation. The annexed engraving will best explain its details: (1) Pad for the mouth, to be held by the operator; (2) horizontal valve for the escape of expired air; (3) vertical flap valve; (4) stop-cock; (5) nasal spring; (6) elastic tube; (7) glass vessel, with a smaller one having pieces of sponge saturated with ether and having a small perforated stopper to be opened when the apparatus is in use; (8) sectional view of the pad, etc., showing the mouthpiece.

The full effect of the vapour is produced in from one to two or three minutes generally, and as soon as it is perceived, the operation is performed. If the stop-cock shuts off the vapour and it is wished to let the patient breathe air, the nasal spring must be taken off. In prolonged operations this may be found desirable; and the inhalation of the ether may be renewed at the will of the operator, the nasal spring, of course, then being placed on the nose.

Dr. Pugh's Operations.

Dr. Pugh gives the details of three operations. In two of them the patients were successfully anæsthetized, but in the third owing to structural defects in the ether apparatus and also in the patient's face no result was obtained by the inhalation of the

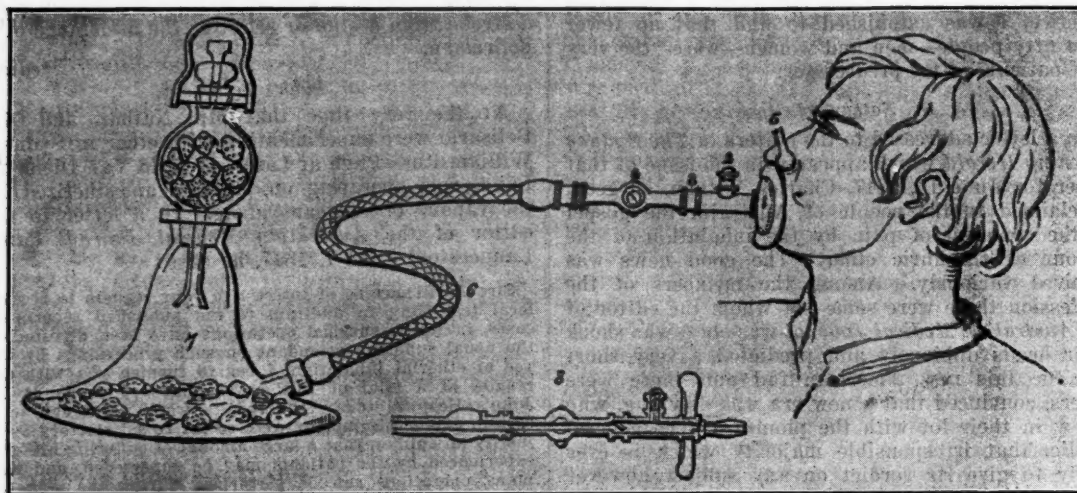


Diagram of First Ether Apparatus Used in Australia and Tasmania.

ether vapour. The particulars of Dr. Pugh's operations are as follows:

CASE I.—Mrs. L. has been the subject of epulis in the left side of the lower jaw, the tumour at present involving the posterior bicuspid and the anterior molar teeth. Various applications have been made by the different medical gentlemen to whom she has applied, but the disease has of late become a source of great annoyance; hæmorrhage to an alarming extent has occurred on two occasions and the size of the tumour has greatly increased. The inhaling tube was placed in the mouth and the nostrils were closed by a clasp over the bridge of the nose; after continuing the inhalation for about five minutes the arms fell powerless by the sides. I then extracted the bicuspid tooth; this was attended by a slight motion on the part of the patient and on extracting the molar tooth an involuntary exclamation escaped her; the diseased parts were dissected away from their attachments to the lower maxilla and chlor. zinci applied to suppress the hæmorrhage. The inhalation in this case had the effect of reducing the amount of suffering to a limit which the patient acknowledged to have fallen short of what she had fortified herself to bear. After reclining for a short time she walked home.

CASE II.—John B., *æt.* 60, has for long time past been the subject of capsular cataract in both eyes. Several operations have been performed with a view to the destruction or displacement of the opaque membrane; when operated on he was an exceedingly troublesome patient to manage, and has been subjected to the required restraint with great difficulty. The inhaling tube was applied to the mouth and after continuing the inhalation for about six minutes the effects began to appear, and in two minutes more the tube was removed from the mouth and the patient's head fell back on the person supporting him, the arms hung powerless by the sides, the legs had lost all power of resistance. The left eye was fixed without the slightest opposition. An iris scalpel was passed through the cornea and on its withdrawal a cataract hook introduced into the anterior chamber and the opaque membrane dislodged from its position, thus completing the operation, during which all evidence of sensibility was absent; the patient's eye was closed and he continued indifferent to surrounding objects; a glass of wine and water was placed to his lips and was drunk without effort; this was speedily followed by restored consciousness. On asking the patient if he was in pain, he replied that his eye

was getting a little sore; he had been free from pain during the operation and although sensible that something was being done to his eye, he felt no desire to oppose its continuance; he walked from the operation room cheerful and well pleased with the easy manner in which he got through the operation.

CASE III.—A.F. has stricture of the urethra; he is a timid, irritable person and could not be managed. The etherial inhalation was tried, but the pad of the mouth-piece being too small, he inhaled air at the commissure of his lips and the sedative action of the ether was in consequence not developed.

Eighty years ago the whole body was the Australian surgeon's preserve; so he could and did remove cataracts or piles, as the case required, without feeling that he had committed the unpardonable sin.

After Science: Trade.

It is a notable fact that after many scientific discoveries, some farsighted, clever manufacturer seizes upon or takes advantage of the results of research and reaps a bounteous harvest. I shall mention just one case. James Syme, the Edinburgh surgeon, discovered a solvent for caoutchouc. This may have brought him a certain amount of gratification, but it did nothing else. A Glasgow trader, however, named Mackintosh, seeing the economic possibilities of the discovery, took out a patent for the manufacture of waterproof cloth by means of caoutchouc dissolved in coal-tar naphtha. That was the origin of the popular overcoat. This practice is not to be condemned altogether, for if there were no Mr. Mackintosh we should lack many things. But it seems a pity that the scientist does not more frequently receive recompense commensurate with the importance of his work. The scientist of the future will no doubt acquire some of the wisdom of the serpent at the expense of some of his dove-like attributes and be fully able to hold

his own in the world of commerce as the singer and dancer do today. The manufacturing spirit of enterprise was ubiquitous when "etherial inhalation" was first used in surgery. In the *Australian Medical Journal* for August 2, 1847, there is an advertisement exemplifying this fact. Here it is:

Painless Surgery.

The undersigned has much pleasure in announcing to the faculty of New South Wales that he is manufacturing the APPARATUS for the inhalation of the vapour of Ether which has met with such approbation of the *first medical men* in the Mother Country and is pronounced by the London Press to be unequalled from the many advantages it possesses over all others—amongst which are:

(1st) The air taken into the lungs is exclusively that which has passed through the vessel of ether.

(2nd) The pad or cup held over the mouth is so formed and the Elastic tube so extremely flexible as to be adapted to the various contours of the patient, and prevents the breathing of the free atmosphere.

(3rd) The expired air from the lungs escapes with the most perfect freedom without entering the Ether Vase.

(4th) It has a stop-cock to regulate the Volume of Ether and to cut off the supply at the "proper moment."

(5th) It is constructed so securely that there is no possibility of escape, so that the apparatus may at all times be kept ready for use without waste of any portion of the Ether.

All orders attended to with punctuality and dispatch.

Arthur Graveby,
Furnishing and General Ironmonger,
Brazier Tin Plate Worker,
280 Pitt St., Sydney.

What the Press Said.

The opinions expressed by the lay and medical press on the question of ether anaesthesia were at first the antipodes of each other; but later in the light of fuller knowledge these extremes did actually meet. Dominated in part, no doubt, by the magnetism of Drs. Nathan and Belisario and in part by the "desire to hear and tell some new thing," *The Sydney Morning Herald* was effervescing with excitement and optimism; this tended to create a fool's paradise. The attitude of the *Australian Medical Journal*, on the other hand, was one of blind unbelief and we are told that "blind unbelief is sure to err." The editor of the last named publication wrote two articles on "Painless Surgery," which, like the Scriptures, he intended to be "profitable for doctrine, for reproof, for correction and instruction." In the first he tells us:

We have no hesitation in predicting for this process a transient popularity; it will have its day, ultimately to be abandoned as useless or injurious.

In the second he is not quite so "cock-sure"; he has taken his first step towards conversion. He gives some good advice and "caution" is now his slogan. That this conversion finally became full and complete there is no shadow of doubt, for he lived till the year 1877 and much anaesthetic vapour was inhaled during the last thirty years of his life.

Possibly, when "the scales fell from his eyes," he became an ardent apostle of anaesthesia. Before you hear the voice of the press, I should like to introduce the two editors of the *Australian Medical Journal*.

George Brooks.¹

Dr. George Brooks was the first editor of the *Australian Medical Journal* and when he assumed the editor's chair, was Senior Colonial Surgeon. Of his youth and medical or literary training we know nothing. In November, 1819, he was appointed by Governor Lachlan Macquarie to the position of Assistant Surgeon on the Colonial Medical Staff; this appointment was subsequently ratified by the Home authorities. In 1823 he became Senior Assistant Surgeon. When the Department was remodelled in 1828 George Brooks was again promoted and had reason to believe that he would have been appointed to the chief position on the Colonial Medical Staff which was Inspector of Hospitals; but the Civil Medical Service about this time "was assimilated in duties, discipline and pay to that of the army" and an inspector of army hospitals superseded the civil officer. This "assimilation" proved a burden grievous to be borne, under which George Brooks became old and broken at an age when he should have been in his prime. For nearly twenty years he had to perform without fee or reward in addition to his own work, the office of staff-surgeon to the troops and mounted police in the Newcastle district. In August, 1846, his health was such that he was compelled to apply for sick leave and eight months later he petitioned to be allowed to retire on a pension of eleven shillings and sixpence per day. His reputation stood high in the service. On his applying for permission to retire his chief, W. Dawson, M.D., testified: "He is a talented medical man of strictly religious and moral character." When he retired from the Colonial Medical Service he was only forty-nine years of age. Dr. Brooks was appointed in 1825 a justice of the peace for the Newcastle district, where the greater part of his professional life had been spent. He married Mary Stephen, eldest daughter of the venerable William Cowper, D.D., Archdeacon of Cumberland. George Brooks died at Newcastle on May 2, 1854, at the age of fifty-seven years. His grave is in the cemetery attached to the Newcastle Cathedral.

Isaac Aaron.

Isaac Aaron was one of Sydney's most capable practitioners, a clever man and an attractive personality. The following biographical sketch, I have taken *verbatim et literatim* from the *Australian Practitioner*, Volume I., 1877-1878, a journal edited by the late Dr. Samuel Knaggs:

One of the oldest practitioners has lately passed away, a man who was most liked by those who knew him best, whose independent character and great general and professional knowledge caused him to be highly respected by all

¹ The biographical information of Dr. Brooks was taken chiefly from the Historical Records of Australia, Series I., Volume XXV., April, 1846-September, 1847, pp. 577, 578, 579.

with whom he came in contact. Mr. Aaron was born in Birmingham in the year 1804 and was consequently aged 73 years at the time of his death, which occurred at his residence, William Street, Sydney, on August 17 1877. He went to school at Birmingham and subsequently pursued his medical studies at St. Bartholomew's Hospital, London. In the year 1827 he passed the examinations entitling him to become M.R.C.S. and L.S.A. He afterwards practised for several years at Birmingham and took an active interest in politics. He was presented with a massive silver snuff-box in the year 1837 by his political friends and admirers and in 1838 he left the Home country for Australia and landed in Sydney. Shortly after his arrival he went to Raymond Terrace, on the Hunter River, where he combined the practise of his profession with farming. After some years he returned to Sydney to practise. In 1846 he became proprietor¹ and editor of the first medical paper started in Australia—the *Australian Medical Journal*—which was published in the form of a semi-quarto sheet of sixteen pages and contained intelligence selected from home publications, notes on diseases of the Colony and information of every kind useful to the profession. The first number was issued on August 1, 1846; the editor being G. Brooks, Esq., Senior Colonial Surgeon, and the publisher Mr. W. Baker, of 101 King Street, Sydney. Mr. Aaron commenced his connexion with the periodical in December, 1846, and continued it until September, 1847, when he announced in an address to the subscribers that the paper would cease, partly on account of the increase of his professional engagements, but principally from the want of support from the members of our profession.² This was not the only time he wielded the editorial pen of a medical journal, for in 1870 he was joint editor with two medical men of the first volume of the now defunct *New South Wales Medical Gazette*, and during the existence of that journal he was a frequent contributor. For many years he held the position of district surgeon to the Infirmary and Dispensary. For about twelve years he was attached to the volunteer forces and for the greater portion of that time he held the position of Principal Medical Officer, which he at last relinquished on account of failure of health. During the last eleven years of his life he held the appointment of surgeon to the Darlinghurst Gaol and to the Receiving House for Lunatics. At one period of his life he was high in Freemasonry, holding the position of Grand Master of the English Constitution. At the period of his decease he

was President of the Unitarian Church in Liverpool Street, Sydney. During his life one of the principal objects of his existence was to advance the interests of the members of the medical profession individually and collectively, and his decease was universally regretted by his confreres in Sydney.

A tablet to Dr. Aaron's memory was erected in the Unitarian Church. In addition to the appointments referred to by Dr. Knaggs, Isaac Aaron held the position of Health Officer to the City of Sydney; he was also honorary member of the Royal Jennerian Society of London, Fellow of the Australian Medical Association and a member of the Australian Medical Subscription Library.

"The Sydney Morning Herald."

Let us first of all hear the song of the lark and then the croak of the raven, both voices absolutely necessary in the economy of things. Under the caption "The Ether Discovery," *The Sydney Morning Herald* for June 16, 1847, published the following article:

The readers of the Sydney Morning Herald have been made aware that many experiments have already been made in Sydney by different professional men in the application of the new discovery of inhalation of ether for the purposes of operative surgery. We were present a few days back when Mr. Nathan and Mr. Belisario, the dentist of Spring Street, applied the ether in two cases with results sufficiently surprising in each. In the first case Mr. Yarrow inhaled by means of a tube communicating with a vessel containing the ether, until from the entire relaxation of his whole frame and the deathly expression of his physiognomy we began to apprehend that the proceedings were taking a turn towards manslaughter and that our curiosity was leading us into a scrape. As soon as Mr. Yarrow was fairly well off as it was called; that is as soon as his eyes closed, his arms dropped and his body fell back as he sat (which took place after he had inhaled for about four minutes), the tube was withdrawn from his mouth and several persons in the room proceeded to satisfy their curiosity upon the patient each in his own way. One pinched him in the arm, another in the leg, a third squeezed the top knuckle joints of the patient's hands violently together—a rather painful operation to one in a conscious state—but the patient gave no sign whatever of sensation. In this comatose state he remained for about ten minutes, when he gradually awoke, declared that he had been conscious all the time and heard us talking about him; but was unable to move his limbs or body. He concluded by asking, like Oliver Twist, "for more," which, however, was not given to him as another patient stepped in (a younger brother of Mr. Nathan's) who had two stumps of decayed teeth in his head which were to be pulled out that morning. We saw the stumps, which were nearly level with the gums, required to be punched out, and if the reader has ever had or seen a stump punched out, he need not be informed that it is one of the most painful operations in the history of human torture. The patient, having on a previous occasion undergone the operation of painless surgery, willingly took the chair for the second operation. He inhaled for about five minutes when he fell back apparently quite unconscious. Mr. Nathan held the patient's mouth open whilst Mr. Belisario with a quiet rapidity that almost eluded observation, drew forth one of these stumps, and as quickly extracted the other, the patient the while reclining back and breathing easily as if in a calm, deep sleep. In three to four minutes he woke up, rubbed his eyes and smiled. He was not aware until he was told so that he had undergone the operation at all. At both of these operations were present and closely watching all the proceedings the different persons mentioned by Mr. Nathan in his yesterday's letter. Dr. Richardson counted the pulse, which became very rapid and intermittent, in the first case reaching as high as 120. By reports which have

¹ The first proprietor and publisher of the *Australian Medical Journal* was William Baker, of 101, King Street, Sydney. When Dr. Aaron became proprietor Mr. Baker evidently remained on as an employee. But, as an employee I fear he did not display any singleness of heart, but rather was given to eye service, slothfulness in business or something even worse; for he did not receive his master's "Well done thou good and faithful servant" commendation so heartening to the honest worker. On the contrary we have reason to believe that all was not well with him and that outer darkness became his portion, for, in the July, 1847, number of the journal the following advertisement appears:

"Our country subscribers are requested to take notice that Mr. Baker ceased to have any connection whatever with this journal after the month of April last and that all communications should be addressed to us direct, prepaid. Alonzo Grocott, printer and publisher, Imperial Printing Office, 100 King St., Sydney, opposite the Supreme Court, Sydney, New South Wales."

² The *Australian Medical Journal* has been described as "the first medical paper started in Australia"; but, was it? The following extracts taken from the *Australian Medical Journal*, Volume I., Number 1, seem to suggest that there was a previous medical publication:

A thousand copies of the first number (of the *Australian Medical Journal*) in the new form, will be dispersed gratuitously.

We are not yet inclined, however, to forego the hope of success—so necessary an incitement to every new undertaking; and which is strengthened in the present case by complimentary letters, the writers of which are desired to accept our cordial acknowledgments. The new form also of the publication facilitated the work. This change is the more readily adopted because it is altogether the suggestion of others. Another alteration is the exclusion of directions and phraseology adapted to the understanding of unprofessional persons. This was the most difficult part of our task; while its omission is a gratifying occasion to do respect to the sentiments of friends who have been consulted, and of several practitioners who have spontaneously favoured us with their opinion on the subject.

If there were an earlier journal, magazine or paper, I have not been successful in discovering it.

reached the colony as to the application of this discovery to surgical operations at Westminster Hospital, it appears that the most respectable medical authorities are quite agreed that no dangerous or injurious results are to be apprehended either at the time of or subsequent to the application of ether. The precise nature of the effect produced by the inhalation upon the nervous system and the brain is, of course, as yet mere matter of scientific speculation, and opinions differ thereupon, but all are agreed that the new agent will be of incalculable value in the more critical operations of the surgeon. The experiments we ourselves have witnessed are almost sufficient to show that tooth drawing itself is converted into a luxury—even to the patient.

"The Australian Medical Journal."

In June, 1847, the editor of the *Australian Medical Journal* launched his first attack on ether; and the "drum-fire" of his heavy artillery was heard all over Australia and beyond it.

Listen!

The human mind has a continual propensity to hunt after and adopt novelties and to exaggerate their importance too frequently in an inverse ratio to their real value. To this charge the members of our profession are not seldom, it must be confessed, obnoxious. The pretensions of mesmerism to the power of rendering patients insensible to pain during the performance of those operations which the imperfections of our art still render necessary to preserve life or make it endurable, never received general sanction amongst us; but the idea, once excited, appears to have taken for the time at least, a strong hold upon the minds of some of our brethren. There is a fashion in medicine, as in other less important matters, and the rage just now seems to be after the means of rendering the use of the knife and other formidable instruments in the armamentum chirurgicum free from pain and therefore and thereby less dreadful and dreaded by those whose fate it is to be obliged to submit to their "sharp-medicine." While we applaud a rational search after such means, if such exist, we would warn our professional confreres from too hasty adoption of any measure for this purpose which may be offered for their acceptance. In former times it was customary to stupify with narcotics a patient about to be operated on, but for a long time past the practice has been abandoned. The plan now proposed, and which has been imported into Great Britain from America, is to intoxicate the patient by causing him to inhale the vapour of sulphuric ether. Now although the inebriation produced in this way is very evanescent, it is still inebriation and it does not appear to us of much consequence, if the operatee must be drunk, what the intoxicating medium may be. For minor operations in surgery we should consider any such measure unnecessary; in the more important ones we think it will be found not infrequently conducive to secondary consequences of a grave character, even if it do not in many constitutions produce immediate effects of a mischievous nature. Few practitioners, we imagine, would willingly, if they could avoid it, operate on a patient dead drunk from liquor, yet we here find it seriously proposed and practised, wilfully to make him drunk previous to the operation. We have no hesitation in predicting for this process a transient popularity; it will have its day, ultimately to be abandoned as useless or injurious. Meantime some of the cases in which ether has been used, afford a curious illustration and confirmation of Dr. Marshall Hall's theory of the reflex action of the spinal nerves, for during the extraction of teeth, although the brain was unconscious of pain, "the features assumed the expression of pain and the hand was raised." There is something, however, in the details of one of the cases which throws an air of ridicule over the whole affair and by proving too much, tends to its discredit. A boy who had two teeth extracted during ethereal inhalation, on awakening declared "it was the best fun he ever saw," and insisted on a repetition of the experiment. A splinter which had been left afforded an opportunity of complying with his request,

"but the pain proved to be considerable!" We leave our own readers for the present to form their own conclusions on the last paragraph.

When the thunder of the attack had died away, the anæsthetists counterattacked causing the editor to "straighten his line" to some extent before again assuming the offensive. In the second article, published on July 1, 1847, he writes:

Since our last publication, accounts of the effects of the sulphuric ether inhalation have poured in upon us from all quarters; and loud have been the blowing of trumpets and great the jubilation and overwhelming the nonsense uttered and indited thereupon. It has been asserted that "all are agreed that this new agent will be of incalculable value in the more critical operations of surgery"; which assertion we deny—and are so far from giving assent to the proposition (and in this we are not alone), that it is precisely in those more "critical operations" in which the state of the patient's pulse and countenance are the required indices of the effects of hæmorrhage, or of the shock of the operation on the system, that we would not use it. That when people get into the hands of unskilful operators—as when for instance in performing lithotomy, the surgeon finds his way into the cellular substance between the bladder and rectum—it would be merciful to thoroughly intoxicate them, either with ether or any other drug, we fully admit; but that this vaunted process will prove, in all cases, so entirely free from danger, we do not believe. That a healthy person may occasionally be made drunk by ether, with as little or even with less ulterior mischief than by the usual means, we do not attempt to deny; but, that harm is not likely to ensue from it in apoplectic habits or in case of disease in the lungs or heart, we must be allowed, at least without much greater experience than either ourselves, the gentlemen of Westminster Hospital, aye, or even the editor of the *Herald* and his friends have yet had, to doubt. In short, it may for a time serve interested parties as a medium for puffing themselves and for mystifying the public by enveloping the matter in a cloud of pseudo-scientific balderdash; but the simple fact is, that to inhale the sulphuric ether is neither more nor less than a mode (a somewhat more than commonly elegant and recherché mode, we allow) of getting drunk; and as to its effects on the brain and nervous system, we will venture to affirm that if practised with a frequency proportioned to the transient nature of the stimulus, as decided an attack of delirium tremens may be induced by it as by the inhibition of brandy. Do not let us be misunderstood. We do not say that it ought entirely to be eschewed; all we contend for is, that it should be used *not indiscriminately*, but with caution; and only by or under the superintendence of medical practitioners, who, instead of allowing themselves to be run away with by the novelty of the process, should use it and investigate its effects coolly and philosophically, so that it may not, if calculated to be really useful, come as many other therapeutic means have come to a premature end through the discredit thrown upon it by its abuse. Above all let the greatest caution be observed lest it get into the hands of unprincipled parties, who may apply it to the basest of purposes or those who incautiously subject themselves to its influence may have cause to repent for the remainder of their lives. Verbum sat.

Here ends the story of the introduction of ether to Australia.

CHLOROFORM IN AUSTRALIA.

We are told that chloroform was first administered in 1852, nearly five years after Simpson's experiments in November, 1847. If this date be correct, the question naturally arises: "Why was it not introduced earlier?" To this question I can give no positive answer. Possibly ether had in the meantime fallen into disrepute and anæsthetics were looked upon with suspicion generally. I have

reasons for this statement which I shall discuss later. Possibly, too, the fact that chloroform was not immediately popular in Great Britain might have accounted for its tardy appearance. But, be that as it may, it seems incredible that chloroform should have remained unknown in these lands till long after it had been recognized as a handmaid to surgery in other countries. We are told of the introduction of chloroform in Dr. Watson's book "The History of the Sydney Hospital from 1811 to 1911." On page 116 we read:

In the year 1852¹ the first administration of chloroform was made by Dr. Alleyne. Although not a member of the staff in this year, he successfully administered it to a girl during an operation for amputation of the left leg for strumous disease.

After this introduction, chloroform rapidly became popular and soon most of the operations were performed on anæsthetized patients.

Haynes Gibbes Alleyne, M.D., L.R.C.S.E.

Haynes Gibbes Alleyne, the pioneer of chloroform anæsthesia in Sydney, New South Wales, came, on his father's side, of an old Devonshire family and through his mother he was connected with the people north of the Tweed. His maternal grandfather was General Sir Fitzroy MacLean, a fighting Mac, from whom he inherited his martial spirit and tenacity of purpose. Born in the West Indies, he spent his early years in a vagrant Gipsy way, living in a world of romance. When old enough he was sent to Scotland for his education. He entered the University of Edinburgh as a medical student about the time of the passing of the *Anatomy Act* and graduated as M.D. in the year 1837. In the following year he secured the qualification of Licentiate of the Edinburgh Royal College of Surgeons. Shortly after graduating he sailed for Sydney, New South Wales. Arriving in Australia, the spirit of adventure took him inland, where for some years he was engaged in squatting pursuits. On the outbreak of the first Maori war—the Hone Heke War, 1843-1846—Haynes Gibbes Alleyne left his farm and offered his services to the army. He went through the campaign in which he saw much service and gained distinction for gallantry in the field. Of his movements between 1846-1851 it is impossible to speak with any degree of certainty. It is more

than possible that he returned to Great Britain and, being an Edinburgh man, spent some time in the northern capital, coming under the spell of J. Young Simpson who at that time was demonstrating the action of chloroform. But this is conjecture. He returned to Australia in 1851 and was appointed coroner at Liverpool. On the retirement of Dr. Savage he was promoted to the positions of Health Officer of Port Jackson and Chief Medical Officer to the Government at a salary of £530 *per annum* which he retained till he retired in July, 1882. During his period of office two outbreaks of small pox occurred in New South Wales; but his good generalship and energy prevented the spread of the disease and led to its suppression. Dr. Alleyne was considered a capable, progressive member of the profession. His public appointments were numerous. He was a member and for many years president of the Medical Board; an examiner in the Faculty of Medicine at the University of Sydney; Honorary Physician and later Honorary Consulting Physician at the Sydney Infirmary and Dispensary; a member of the Board of Visitors to the Lunatic Asylums; a member of the Immigration Board and Medical Superintendent of Immigration; a member of the Benevolent Asylum; a member of the Australian Medical Subscription Library and a member of the Council of the Australian Medical Association. As a scientist his reputation was widespread. In the department of marine biology he was a recognized authority and his contributions to our knowledge of the ichthyology of Port Jackson were numerous and important. His life terminated rather suddenly with an attack of apoplexy on September 9, 1882, at his residence in Upper Fort Street, Sydney. He was buried in the Church of England Cemetery at St. Leonard's, North Shore.

The Bertrand Case.

The mention of Dr. Alleyne's name recalls the notorious Bertrand case, one of the most remarkable in the whole history of Australian crime, which, although it has nothing to do with the introduction of anæsthetics to Australia directly, is worthy of brief mention here on account of Dr. Alleyne's association with it. Few, if any, of you will remember the 1865 sensation, caused by a tragedy that had been enacted at North Shore, Sydney. Excitement ran high, editions of the newspapers containing all the revolting details were eagerly snapped up and the chief topic of conversation was the tragic death of Mr. Kinder. The whole story is graphically told by J. D. Fitzgerald in his "Studies in Australian Crime," to which work and to the contemporary pamphlets I would refer those interested in the particulars of the case. Henry Kinder, chief teller in the City Bank, died at his home at North Sydney on October 6, 1865, under circumstances suggestive of suicide. An inquest followed. The witnesses examined at the inquiry were: Henry Louis Bertrand, a dentist; Dr. Eichler, who had attended Kinder, and Mr. Cooper, a colleague on the staff of the City Bank. From the evidence given it seemed quite clear that Kinder had been

¹ This statement and date, 1852, undoubtedly refer to Sydney only for chloroform was administered in Melbourne in the same year. In the *Medical Times and Gazette*, an English periodical, for November, 1852, there is the account of a death under chloroform that occurred in Melbourne. This death, probably the first in Australia due to chloroform, could not have happened later than June or July, 1852. The victim, John Atkinson, had a *fiatula-in-ano*—a condition that has caused more than one anæsthetic death; the anæsthetist was Mr. Baker and the surgeon Mr. Thomas. The inquest was held at the Clarendon Hotel before the Coroner, W. B. Wilmot, Esq. The autopsy was made by Dr. Motherwell, in the presence of Drs. Howitt, Playne, Barker and Youl. Dr. Thomas in his evidence said: "I have frequently used the same chloroform in other cases," showing clearly that chloroform must have been used in Melbourne quite early in 1852 if not before that year. I obtained this information only after my article on anæsthetics had been written. The full story of the advent of chloroform to Australia might some day be unfolded as the result of further research, when the space between the years 1847 and 1852 will be spanned. But the absence of any Australian medical publication between those years is to be regretted as it makes the search for reliable information both difficult and tedious.

responsible for his own death by shooting himself with a pistol in the presence of his wife, Mrs. Bertrand and Bertrand. Bertrand swore that Kinder shot himself behind the right ear and Dr. Eichler in his evidence gave it as his opinion that the injuries were self-inflicted. The coroner on the evidence returned a verdict of suicide while temporarily insane and Kinder was buried. But the end was not yet; limping retribution was following and overtaking the criminal. Within two months of Kinder's death, owing to information received by the authorities, Bertrand, Mrs. Bertrand and Mrs. Kinder were arrested and charged with the murder of the bank teller. The charge against the two women was not proceeded with, but Bertrand was committed for trial and arraigned at the Darlinghurst Court House. It was at this point that Dr. Alleyne came into the case which now became important from the angle of medical jurisprudence. The body of Kinder was exhumed and three doctors—Drs. Eichler, Alloway and Alleyne—were commissioned to conduct an autopsy. The medical evidence revealed the fact that the doctors were not all of one mind. Dr. Alloway differed from Dr. Eichler as to the direction of the wound; he also held the opinion—contrary to that expressed by Dr. Eichler—that the pistol must have been loaded with a bullet or some hard substance as the maxillary bone had been fractured. Dr. Alleyne agreed, though not too decidedly with Dr. Alloway. Dr. Eichler still believed that the wound was self-inflicted, but was not absolutely sure. Dr. Alloway, on the other hand was positive from the position of the wound that someone other than Kinder must have fired the shot. The medical witnesses, however, were agreed on two points: (i.) That the wound was one that might or might not have caused death and (ii.) that the patient's condition on October 5 indicated a probable recovery. What then was the cause of death? Poison! There were two trials. In the first the jury after twenty-four hours' deliberation failed to agree; but in the second trial after two hours' retirement they returned to court and recorded their verdict of "guilty." An appeal to the Privy Council was made and Bertrand's neck was saved, the sentence of execution being commuted to "penal servitude for life." After serving twenty-eight years as a prisoner, Bertrand was liberated on June 16, 1894. While in gaol he became an expert carver in bone and ivory; a specimen of his ivory carving is to be seen in the Mitchell Library, Sydney. "The doubt which existed in the minds of many as to Bertrand's guilt was cleared up by a statement he made to his counsel, Mr. Windeyer, after conviction and when the confidential relationship of counsel and client had ceased. He acknowledged his guilt without equivocation" (J. D. Fitzgerald, "Studies in Australian Crime").

CONCLUSION.

Curiously enough the attitude of the pioneers of anæsthetics in Australia towards ether underwent several changes before the final reconciliation took

place. I am here speaking of Drs. Nathan, Pugh and Belisario only; others there may have been who "endured till the end." This changing attitude, it seems to me, might be divided into three periods or phases. There was first of all the period of enthusiasm, when the limitations of the drug were, to them, unknown; results, remarkable results were obtained; painless operations were performed and all the world was invited to come and see what the magic of anæsthesia could do. Then there was the period of doubt. We can theorize now as to the cause of this doubt. We know that things can happen, we know that accidents do happen during the administration of an anæsthetic; but this knowledge had to be bought dearly by our fathers and grandfathers. Finally there was the period of unbelief; ether was for the time being scrapped. Something happened; what it was I do not know. A death under an anæsthetic is a tragedy at any time; the effect of such a calamity occurring when anæsthesia was in its infancy, we can scarcely conceive. Possibly a death did occur. The evidence on which I build my belief that ether as an anæsthetic was temporarily abandoned, comes from two sources: (i.) Dr. Pugh's letter to the *Australian Medical Journal*, published in its July, 1847, number. (ii.) Mr. Ernest Blackwell's biographical sketch of Dr. Belisario which appeared in "Records of First Australian Dental Congress, Sydney, New South Wales, February, 1907." Not long after his pæan of praise due to his first experiences with ether, Dr. Pugh published his letter of recantation. The contents of this letter were so gratifying to the editor of the medical journal that he could not refrain from adding a foreword. Under the caption, "The Etherial Humbug," the editor published his own comments and Dr. Pugh's communication. I reproduce both:

The Etherial Humbug.

The following communication from Dr. Pugh was received too late for publication in its proper place. It is, however, so confirmatory of the opinions we expressed in the June number of this journal that we cannot forbear to give it a place at the expense of our advertising column.

To the Editor of the Australian Medical Journal,
Launceston, June, 18, 1847.

Dear Sir: The perusal of the various public journals in which the successful application of ether in rendering surgical operations painless was described, induced me without loss of time to make trial of its efficiency and in my first essay I was much pleased with the result. I have, however, from my subsequent experience been induced to view the proceedings in a less favourable point of view, and having made the public, through your journal, acquainted with my success, I shall by the first opportunity disclose the extent of my failure. I was inclined to advise the general adoption of the recently discovered principle; I would now desire to caution the profession against the employment of ether inhalation in persons in any way disposed to apoplectic disease or even to those of a full habit of body. I have arrived at the conclusion that if the effect be not immediately induced, a continuation of the inhalation cannot be pursued without danger and serious consequences. The departure of the *Shamrock* will be immediate. I am, therefore, unable to write you at greater length. Yours truly, W. Pugh.

The interpretation of Dr. Pugh's cryptic letter I cannot give you and it would be idle to speculate as to the nature and extent of his failure; for before his promised statement had been received the *Australian Medical Journal* had ceased publication. But this one thing is certain: he had met with some serious misadventure. Dr. Belisario's defection is made clear by the following sentence taken from a biographical sketch of him by Mr. Blackwell ("The First Australian Dental Congress Records, Sydney, New South Wales, February, 1907," page 34): "In those days (a date later than 1847) extractions were particularly painful, for Dr. Belisario never gave gas and local anæsthetics were then, of course, unknown." Of Dr. Nathan's backsliding I cannot say anything definite, but it is reasonable to suppose, if his friend and early colleague thought fit to discard ether, that he too would lose faith in the drug for a while. But in the fullness of time anæsthesia came into its own, as you all know, and proved to be, as the gifted author of "Rab and his Friends" has so beautifully told us: "One of God's best gifts to his suffering children."

There are spots on the earth to which pilgrims repair, which are called sacred and keep green the memory of notable events. This is as it should be. There should be at least one medical shrine in this city. To the members of the medical profession in New South Wales the site of Dr. Belisario's house in Spring Street, Sydney, should be holy ground. It was here, in June, 1847, that the first anæsthetic in Australia was administered.

One Last Word.

The facts and dates of history—even of the more recent history—are very often unreliable and statements made in all good faith after much painstaking and extensive research have to be qualified at times. I have endeavoured to make my story as far as possible accurate; but it is unwise to be too dogmatic, so, realizing the fallibility of human nature, I am prepared to admit that errors—I hope they are not many—may have crept into it.

ACKNOWLEDGMENTS.

I desire to acknowledge my indebtedness to the staffs of the Mitchell Library, the Public Library at the corner of Macquarie and Bent Streets, and the Fisher Library at the University of Sydney; also to Miss Laura Whitfeld of the Library of the New South Wales Branch of the British Medical Association; Miss Paton, of *The Sydney Morning Herald* Library; DArcy W. Addison, Esq., M.V.O. *et cetera*, Under Secretary for Tasmania, and Dr. R. U. Russell, of Newcastle, for substantial help so kindly and freely given. My information about Sir J. Young Simpson was obtained from his "Life," by his daughter, Miss Eve Blantyre Simpson. For the loan of the lantern slides I have to thank Captain Watson, President of the Royal Australian Historical Society.

THE ÆTIOLOGY AND TREATMENT OF INFANTILE ECZEMA.

By FRANK TRINCA, M.C., M.B., B.S. (Melbourne), Melbourne.

THAT infantile eczema is a comparatively rare disorder is a fortunate circumstance, for the dictum of the skin specialist in regard to prognosis is that the child will probably grow out of it in the early years of life, little response to treatment being expected in the interim.

The first case encountered by the writer in practice was that of a child who had reached the age of four years without fulfilling this promise and the parents who had not had one night's undisturbed sleep during that period, were in a state of disordered health which rendered the whole position a domestic tragedy. No effort had been spared in seeking a cure of the malady.

Soon after this experience, a second child was encountered who had the disorder protracted to the age of fourteen years and who had to sleep in gloves filled with an emollient on account of intractable irritation of the skin of the hands which presented a cracked parchment-like appearance.

Though perpetuation of infantile eczema is unusual, its possibility calls for some rational understanding of the condition in order that measures may be adopted at the onset which will prevent the more common transient disorder assuming the chronic form. Enlightenment on this question came in an unexpected manner. Some five years ago the writer was called in to treat a child, aged four months, suffering from infantile diarrhoea.

The child had been put on whole cow's milk some weeks before and had passed curds for some time. There was present on each cheek a patch of acute weeping eczema which, the history showed, had been accentuated greatly after every feed and was daily increasing in magnitude. The parents were advised to put the child on albumin water on account of the diarrhoea, but on giving the child the first meal in the writer's presence, a projectile vomiting crisis occurred, the eyelids and lips assumed after a few moments a state of giant urticaria, while the eczema became distinctly hyperæmic and exudation increased. The obvious train of reasoning arising from this circumstance was that eczema and urticaria which is an anaphylactic phenomenon, are closely related and that, as egg white had been responsible for the urticaria and also for an aggravation of the eczema comparable to that seen after a milk meal, so might some equivalent factor in cow's milk be responsible for the eczema. It was hoped that this anaphylactic factor in cow's milk might be neutralized by boiling. The cow's milk was thus boiled for half an hour and the eczema disappeared in three weeks. There has been no return.

In the light of this experience the boy aged fourteen was treated by the elimination of eggs and milk from his diet with considerable improvement. Previously he had been for many years encouraged to build himself up by recourse to this diet. Some three months after the first child aged four months was treated, an article appeared in the *Medical Clinics of North America* in which the cause of infantile eczema was attributed to milk and a number of cases was described in which a cure had been obtained by boiling the milk. Further interesting observations were made in which it was stated that asthma and infantile eczema were frequently associated. In the case of the boy aged fourteen, asthma had been constant since soon after birth. As asthma is also an anaphylactic condition, its asso-

ciation with eczema lends confirmation to the anaphylactic view of the latter condition. The American observers further found that by the injection of albumin water in doses starting at 0.06 mil (one minim) of a one in 200,000 aqueous solution, the children so affected could be desensitized. The result of this combined treatment is demonstrated in the favourable result obtained in a later case.

The patient was a girl, aged eleven months, who had had intractable eczema from three months of age. In spite of a succession of treatments which exhausted the pharmacopoeia, it still exhibited over its entire body a practically continuous eczematous rash. On the scalp was a thickened seborrhoea-like membrane which had to be daily recovered, reforming, however, as fast as it was removed. Intermittently there accumulated bullae the size of walnuts which softened and discharged a creamy exudate. There was no suggestion of acute inflammation or pyogenic infection. At the outset milk was eradicated from the diet and there were substituted meals consisting of white meats such as brains and tripe macerated in sago, maizena *et cetera*. The eczema showed improvement in a few days and in three weeks had disappeared from the body and limbs. A sulphur and ichthyl mixture was given with further alleviation. The child then began to teethe and, as in all cases of this type, a tendency to relapse in a minor degree occurred. Injection of egg extract was then instituted and after a few weeks no sign of the eczema remained. On several occasions since, further dentition has occurred, with the appearance of a few minor patches of eczema a couple of square inches in extent and inoculation has resulted in its diminution and then elimination.

The association of anaphylaxis and the phenomenon of dentition has given rise to the following speculation. Throughout life there occurs a number of crises associated with ossification. Such crises are dentition, primary and secondary, puberty, pregnancy and the menopause. The evidence of osseous change in pregnancy and the menopause exists in what may be termed the spreading of the osseous figure as a sequel to these events. At all these periods there exists a general constitutional upset showing involvement of the soft tissue metabolism as well as that of the bones. At all these periods rashes are prone to occur, there is a change in the nervous disposition with enhanced sympathetic activities and the individual emerges changed to a certain extent in form and personality. That the periods of ossification influence general metabolism is seen in the fact that in the curve of life long growth is retarded at intervals during their incidence. The curve of growth has been shown by many observers to be not continuous; it follows a rising and falling curve. Thus it is retarded during each primary dentition, then rises more rapidly from three to six years of age.

From six to twelve years of age during the secondary dentition it again is relatively retarded, once more undergoing acceleration till the period of ossification in later puberty is entered.

If there is sought a general developmental principle behind these retarded periods, the transition occurring at puberty may be exemplary of analogous processes occurring at all such periods. At puberty when the adolescent is converted in a short period into an adult, the conversion appears to occur not as a result of food ingested during that

period, but rather in a readaptation of tissues laid down since birth. Such is a "scene shifting," as it were, between the acts of life and so at each similar crisis the individual's activities are less coordinated with widespread physiological upsets. The period of puberty has for this reason been termed the hobbledohoy stage of life. If teething is taken as the first "change of life" just as the menopause is the terminal one, there is seen a general physiological upset manifested as irritability, lethargy, oversympathetic activities manifested by cutaneous pallor, anorexia and tendency to increased activity of the mucous membranes. Resistance to disease as in all these periods is lowered.

All such considerations point accordingly to a transitional crisis in operation in the soft tissue structures as a parallel accompaniment of the more obvious osseous ones. The hypersympathetic activity and the hyperplasia of the thyroid in puberty, pregnancy, the menopause and also in menstruation point to there being an endocrine crisis behind such periods. Behind thyroid activity there is acknowledged a dual function. On the one hand is an anabolic phase called morphogenetic or body building; on the other is a katabolic function which is accentuated during any hyperplastic phase with increased sympathetic manifestations, prolongation of which determines bodily wasting. As the thyroid is hyperplastic during the later crises, such as puberty *et cetera*, the predominance of this katabolic mechanism would account for the retardation of growth and would provide a physiological mechanism by which a partial mobilization and readjustment of tissue form might be carried out during these periods.

In the existence of such a mechanism might rest the explanation of the anaphylactic state which is characteristic of all the periods of life enumerated and also of the response of the physiological economy to the introduction of foreign proteins of dietetic type or present in infective organisms. In regard to rashes which spontaneously arise in teething and other analogous crises, there must be some embarrassment to the efficient maturation of the soft tissue changes and such embarrassment will be manifested in the skin as various forms of rashes. Anaphylactic reactions which arise as a result of dietetic influences, it may be observed, are occasioned by proteins that may be described as existing low down on the evolutionary scale. Thus the simple food of the young, such as eggs, milk and seeds, for example as those of strawberries, are the common offenders. Similarly shellfish of primitive evolutionary type are commonly responsible. On account of this simplicity or owing to possession of a molecular structure which will allow of ready absorption at a stage of life when the young individual of the species has not developed its full powers of active assimilation, such bodies may have powers of passing the alimentary barrier unchanged and so operate as does an injected protein. Such would necessitate the operation of the higher endocrine katabolism for their disintegration. And so there would be called into operation by dietetic bodies the mechanism which

spontaneously operates during the transitional crises of life.

By the elaboration of such a principle there can be brought into line a common anaphylactic phenomenon such as eczema which is brought into being either by the teething crisis operating under embarrassment or by the effect of a specific protein passing the barrier of efficient digestion. In the case of the child described the constitutional defect obviously was hereditary in type as the father had been a life long sufferer from eczema.

The material used for inoculating this patient was made up by the Commonwealth Serum Laboratories on the following basis:

Egg albumin	} One in 50,000.
Egg globulin	
Ovo-mucoid	

The initial dose used was 0.06 mil (one minim), the injection being repeated at five day intervals and 0.06 mil increase being made with each succeeding injection.

Not the least important practical advice to the parent of a child so affected is the recommendation of cardboard splints on the limbs to prevent constant friction and denudation of the affected areas by the fingers and toes. The patient described had been allowed to pass some eight months without such provision.

NASAL POLYPI.¹

By W. SANGSTER, M.D., B.S. (Melbourne),
Honorary Assistant Surgeon for the Ear and Throat,
Adelaide Hospital, Adelaide.

NASAL polypi may be described as inflammatory growths usually of a jelly-like consistence which generally grow from the ethmoidal regions of the nasal cavities. They are usually multipe, frequently bilateral and vary in size.

Sometimes they have more or less well defined pedicles and often grow from a broad base; in early stages they are usually sessile and at this stage are clinically and histologically identical with a localized inflammatory œdema of the mucous membrane. They almost invariably arise from the ethmoidal region and most frequently from that portion included in the middle meatus. Their bases are attached to the lips of the *meatus semilunaris*, that is to the processes in the meatus and bulla or to the middle turbinal bone. When extensive polypoid degeneration in the ethmoidal region is present, it is often found that the mucous membrane of the larger sinuses has undergone similar change.

Histology.

A nasal polypus consists of a network of connective tissue fibres in meshes of which are mucigenous matrix and connective tissue corpuscles; fine capillaries are present surrounded by small cells; this points to the inflammatory nature of the growth.

Mucous glands are present in greater or lesser numbers and degeneration of these may produce cysts of varying size in the substance of the polypus; the surface is covered with ciliated epithelium. In the early stages of formation later this becomes stratified and non-ciliated.

Nasal polypi develop as the result of repeated infections of the ethmoidal labyrinth and may be present with or without suppuration in the nose or sinuses. This infection causes œdema of the mucous membrane covering the middle turbinal and repeated attacks cause the submucous tissue to become thickened and waterlogged; then gravity and repeated blowing of nose come into play and the mass begins to sag and the tissues become stretched and form a typical nasal polypus. In the early stages the mucous membrane alone is involved, the bony structures not being affected, but soon the periosteum takes part in the changes and subsequently caries of the bone may occur.

At one time there was a good deal of discussion as to whether the inflammation commenced in the mucous membrane and extended to underlying periosteum and bone or *vice versa*. The former view is probably the correct one, because irritation of the mucous membrane in the nose or sinuses may give rise to polypi without any involvement of the underlying bone. Polypi often date from an attack of acute rhinitis associated with influenza or one of the exanthematous diseases. When the process involves the periosteum and the bone becomes affected in well marked cases, destruction of the underlying bone occurs and its place is taken by polypoid mucous membrane and the evidence of chronic inflammation, that is, hyperplasia of connective tissue, thickened mucous membrane and hypertrophic rhinitis. Why do polypi affect the ethmoidal region in nearly all cases? Probably because of the complex anatomical structure of the ethmoidal bone which favours the retention of inflammatory products.

Recurrence after removal is very common when the polypi are multiple and especially so where suppuration is present in the accessory sinuses; in these recurrent cases if pain and epistaxis are present the possibility of underlying malignant disease must be considered.

No mention need be made of the single polypus or the naso-antral polypus; the treatment of these is much more satisfactory.

Case Report.

The following case is instructive:

A.N., aged eighteen years, was seen on January 10, 1924. He had had catarrh all his life. He had suffered from influenza six months previously and this was followed by a persistent cough. He has had attacks of shortness of breath which apparently were asthmatical.

On examination polypi were found in both middle meatal regions; transillumination and X ray examination revealed the presence of shadows.

On January 14, 1924, a bilateral Luc Caldwell operation was performed. Polypi were removed from both antra and ethmoidal regions; recurrence occurred in a few weeks. Polypi were removed several times under local anæsthetic.

On September 26, 1924, the ethmoids were curetted under a general anæsthetic. On November 6, 1924, polypi

¹Read at a meeting of the Eye, Ear, Nose and Throat Section of the South Australian Branch of the British Medical Association, June, 1926.

were removed. On January 27, 1925, the septum was resected and polypoid tissue was removed from the ethmoidal region. On September 21, 1925, the polypi were as bad as ever with much thickness and toughness of tissues. The patient was a bad subject for both local and general anaesthesia.

Reports of Cases.

LYMPHOCYTHAEMIA.¹

By H. H. BULLMORE, M.B., B.S. (Edin.),
M.R.C.P. (Edin.),

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Sydney.

Clinical History.

The patient, a man, aged thirty-four years, was admitted to hospital complaining of pain in the pit of the stomach and of soreness of the left side of the abdomen. The symptoms had been present for about six months.

Inquiry into his previous history revealed that he had suffered from measles, epidemic parotitis and scarlet fever. He had an illness eighteen months ago which was diagnosed as enteric fever. About seven years ago he was operated upon for deflection of the nasal septum. He denies venereal infection and has not suffered from malaria. He has worked as an engineer for twenty years and has used both tobacco and alcohol, but only to a moderate extent.

The patient was quite well until six months ago when he began to notice extreme exhaustion and lassitude after an ordinary day's work. Prior to this he had had no such symptoms. About six weeks ago he suffered from an attack of pain in the upper portion of the abdomen and in the left shoulder. The pain was of a dull character except when he sat down or lay down and then it would be sharp. The pain in the epigastrium was not constantly present, but would come and go and appeared to the patient to be like indigestion. He also had a dull, aching pain in the left side and in the left shoulder. This was constantly present. The epigastric pain lasted for twenty-four hours and then disappeared, whilst the other pain gradually subsided after being present for four or five days. Movement had no effect on the pain and neither vomiting nor diarrhoea occurred. Flatulence was very noticeable during an attack and he complained of soreness in the left side for several days afterwards. During an attack the patient was visited by his local doctor who after examining the patient's abdomen ordered a blood count to be made. The only other thing which the patient had noticed about himself, was the appearance of a small, hard lump six months ago on the medial aspect of the left arm just above the elbow. This was followed by the appearance of similar lumps in the armpit and on the left side of the neck. Since then other small lumps have appeared; at first they were "sore," but are not so now.

Investigation of the alimentary system revealed that the patient's appetite was good. He had not lost weight until lately. He had not complained of vomiting or of pain after food and has suffered from neither flatulence nor indigestion. He has had three attacks of diarrhoea in the last few months, each lasting for about twenty-four hours.

He has had no urinary symptoms. The specific gravity of the urine is 1015 and it has no abnormal constituents.

He has not been subject to coughs or colds and has not complained of sore throat. He has been a little "short of wind" of late. He has not complained of nocturnal dyspnoea. He has been subject to slight attacks of epistaxis and his nose may start to bleed whenever he blows it very hard.

The patient is a sallow complexioned man with good general nutrition. His sclerotics are slightly pale. His

mouth is clean and his teeth are moderately good. His tongue is moist and not furred; the pharynx is normal. The abdomen is soft and slightly protuberant, the enlargement being more pronounced on the left side. The respiratory movements are restricted on the left side. The spleen is palpable on the left side of the abdomen, extending downwards from the costal margin to the left iliac fossa and forward to the mid-line.

No other tumours are palpable. No tenderness is present. No free fluid can be detected. The liver is not enlarged. The kidneys are not palpable. The cervical, axillary and external iliac glands are enlarged on both sides, discrete, hard and the size of walnuts in each area; they are not painful. The pulse is soft and regular, its tension is moderate. The apex beat is not definitely palpable. The heart is normal on percussion. The heart sounds are clear.

The suprathrochlear glands are the size of filberts in both arms and a longitudinal swelling is present in the line of the lymphatics in the upper part of the left arm 6.25 centimetres (two and a half inches) long and the size of a lead pencil.

The thymus and thyroid appear normal.

The pupils are equal and react equally. The knee jerks are sluggish, but increased. No clonus is present. Sensation is not disturbed.

There are no definite signs of enlargement of the thoracic and abdominal glands.

On September 6, 1926, a blood count was made and the following results were obtained:

Erythrocytes, 4,800,000 per cubic millimetre;
Hæmoglobin value, 80%;
Colour index, 0.88;
Leucocytes, 116,000 per cubic millimetre;
Neutrophile cells, 6.5%;
Eosinophile cells, 0.5%;
Lymphocytes, 93%.

On September 29, 1926, a blood count was made and the following results were obtained:

Erythrocytes, 4,800,000 per cubic millimetre;
Hæmoglobin value, 75%;
Leucocytes, 102,000 per cubic millimetre;
Neutrophile cells, 2%;
Small lymphocytes, 98%.

On October 6, 1926, another blood count was made and the following results were obtained:

Erythrocytes, 4,610,000 per cubic millimetre;
Hæmoglobin value, 90%;
Colour index, 0.9;
Leucocytes, 43,000 per cubic millimetre;
Small lymphocytes, 88%;
Large lymphocytes, 6%;
Neutrophile cells, 6%.

Slight anisocytosis was present, but no nucleated red cells were seen.

On October 13, 1926, a further blood count was made and the following results were obtained:

Erythrocytes, 4,600,000 per cubic millimetre;
Hæmoglobin value, 98%;
Colour index, 0.9;
Leucocytes, 45,000 per cubic millimetre;
Neutrophile cells, 5%;
Lymphocytes, 95%.

The coagulation time was normal.

Comment.

I have recorded this case, not because the patient manifests any unusual symptoms, but because he is suffering from typical chronic lymphatic leucæmia. It is noteworthy that the disease must have been present for a very long time before any symptoms impelled the patient to seek medical advice. The symptom on account of which he sought advice, was pain in the abdomen; this was previously due to perisplinitis, the spleen by this time had become very much enlarged.

¹ The patient herein described was shown at a meeting of the New South Wales Branch of the British Medical Association on October 14, 1926.

Post Scriptum.

On November 29, 1926, treatment by irradiation and arsenic has caused definite amelioration of all symptoms up to date. Presumably the improvement will be but temporary.

Reviews.

PRACTICAL MATERIA MEDICA.

THE fourth edition of Bethæ's "Practical Materia Medica and Prescription Writing" is to hand.¹ The first edition was published in 1915. In the present edition the text has been made to conform to the United States' Pharmacopœia, X. Much new material has been added and many changes have been made in the matter relating to drugs formerly included. Many drugs eliminated from the Pharmacopœia have been omitted, but some, no longer official, have been retained, as they are still more or less largely used.

Following upon definitions, the book is divided into three parts: Part I., Material Medica; Part II., Prescription Writing; and Part III., Illustrations, showing incorrect and correct forms in prescription writing. An appendix follows, containing problems and blackboard exercises, a clinical index and a general index. The work does not claim to be a treatise on therapeutics, in fact the therapeutical details are very meagre. It consists mainly of a mass of prescriptions, unnecessarily multiplied and frequently repeated over and over again. Many are weird and unduly complicated. The author's ideal prescription, "a document above criticism," is frequently violated by his own examples. The author has some excellent observations on incompatibility and yet his own prescriptions contain glaring examples, such as bismuth subnitrate with *mistura cretæ*. Again he prescribes bismuth subnitrate, magnesia and calcium carbonate together; also boric acid with prepared chalk and carbonate of magnesia. Mistakes of all kinds are distributed through the book. Thus citric acid is stated to be antiscorbutic. *Apis mellifera* should be *Apis mellifica*. *Dryopteris Filix-mas* should read *Dryopteris Filix mas*. *Pulveris cretæ compositus* should be *pulvis*. Elsewhere it is wrongly stated that *pulvis* is the nominative. We are informed that *argento-proteinum fortius* contains 7.5% to 8.5% *argentum* and *argento-proteinum mite* contains 19% to 25% *argentum*. Surely these should be transposed. A hundredweight (avoir-dupois) contains 112 pounds, not 100, as stated. Further a pint (apothecaries' measure) contains twenty, not sixteen ounces, as set out in the book. Ergot is recommended for *purpura hæmorrhagica*, which is pharmacologically quite erroneous. Such genitives as: *phenolis*, *mentholis*, *eucalyptolis*, *guaiacolis*, *resorcinolis*, *thymolis*, *tolu* and *chlorali* are quite strange to our eyes. The expression "teaspoonful every three hours," leaving out "a" or "one," can only be justified on the plea of extreme hurry. Such curtailed expressions occur throughout the book. "Use teaspoonful to pitcher of hot water" is charmingly indefinite. "Cht.," which appears very often, evidently indicates *chartula*, as in "Ft. Cht. no. V." Such extreme contractions are inelegant and unnecessary, unless the prescriber's hurry is urgent. "Cap." evidently signifies pill as well as capsule, as judged by the context. "*Aquæ q.s. f. §IV.*," here and throughout the work "*ad*" is understood. It should not be understood; it should always be written.

The therapeutic indications leave very much to be desired. No mention whatever is made of the use of tartar emetic in bilharzia infection.

There are, however, some meritorious parts. In dealing with the metric system the author states that for average work one gramme may be used approximately as equal to 15.5 grains and one cubic centimetre as sixteen minims. This is more accurate than the approximate equivalents in the British Pharmacopœia. A point often forgotten, but stressed by the author, in the administration of mercury,

is that "care should be exercised that irritating or poisonous compounds are not formed. Particular consideration should be given when the patient is taking iodides, and in making local applications of mercuric salts, they should not come in contact with iodine." "Apo-morphine hydrochloride, being a powerful hypnotic, should not be used as the emetic for opium poisoning." Concerning potassium chlorate: "Some clinicians prescribe the drug well diluted with water, and with the addition of hydrochloric acid." This is true, but it should have been stated that free chlorine may be evolved as was deliberately intended in Burney Yeo's mixture for enteric fever. A "magma," we are informed, is an aqueous preparation, holding in suspension an insoluble metallic hydroxide, as, for instance *magma magnesie* or milk of magnesia. The author believes with many other authorities in giving very large doses of digitalis, when indicated. He states that the dose of tincture of digitalis should be based on body weight—one drachm (four mills) for each thirty pounds (13.6 kilograms) of body weight, spread over forty-eight hours. Our Australian eucalyptus oil receives adequate description and *cajuput*, also indigenous to Australia and elsewhere is mentioned. The book contains much useful information, but unfortunately is also full of errors.

ANATOMY FOR MASSAGE STUDENTS.

"A GUIDE TO ANATOMY" by E. D. Ewart is an attempt to provide a more or less complete handbook for students preparing for the examinations in medical gymnastics and massage.¹ Special consideration has been given to the structures and organs directly concerned in this form of treatment. The text is illustrated by a carefully selected and well executed set of figures and plates. The subject matter is arranged for ready reference and, taken as a whole, the book should form a very useful *vade mecum* to massage students. It is unfortunate, however, from the local students' point of view, that the old terminology has been used throughout; this detracts very much from its usefulness.

TREATMENT BY SUGGESTION.

THE chief title of M. P. Leahy's book "The Mind in Disease" is a misnomer inasmuch as the author makes no contribution to the psychology or nosology of mental disease.² The work is written in non-technical language that obviously caters for the lay reader.

In a foreword the author sums up his seventeen years' experience in the following statements: (i.) The mind is a factor in disease. (ii.) It acts sometimes by virtue of will power and at other times by virtue of the imagination. (iii.) By combining these two factors, imagination and will power, many diseases can be cured. (iv.) Both the imagination and will power can be developed by suggestion.

In Chapter I. he expounds these propositions in a simple manner, but adds nothing to knowledge of the psychology of suggestion.

Chapter II. recounts the cure by autosuggestion of depression, pain and morphine habit from which the author suffered whilst a prisoner of war in Germany, and is interesting as an autobiographical contribution.

In the succeeding chapters are given incomplete reports of cases in which suggestion (waking, hypnoidal or hypnotic) was successfully used in the treatment of such conditions as alcoholism, constipation, insomnia, phobias *et cetera*.

Although the author's methods are conventional and his psychological speculations neither original nor profound, he renders a service in illustrating the practical application of suggestion therapy in minor psychiatry.

¹ "Practical Materia Medica and Prescription Writing," by Oscar W. Bethæ, M.D., Ph.G., F.C.S., Fourth Revised Edition, 1926. Philadelphia: F. A. Davis Company. Royal 8vo., pp. 508. Price: \$4.50 net.

¹ "A Guide to Anatomy for Students of Medical Gymnastics, Massage and Medical Electricity," by E. D. Ewart; Second Edition; 1926. London: H. K. Lewis and Company, Limited. Demy 8vo., pp. 350, with illustrations. Price: 12s. 6d. net.

² "The Mind in Disease: Some Conditions Cured by Suggestion," by M. P. Leahy, B.A. (Dublin), M.B.; 1926. London: William Heinemann (Medical Books) Limited. Crown 8vo., pp. 178. Price 6s. net.

The Medical Journal of Australia

SATURDAY, JANUARY 29, 1927.

A Retrospect.

Radiology.

There are still many medical practitioners who regard the use of Röntgen rays as a diagnostic agent with suspicion. The cause of this mistrust is to be sought in hazy, technically indifferent skiagrams on which opinions are based. In recent years many improvements in the form of apparatus have been introduced and it is becoming less and less excusable for a radiologist to produce an indistinct Röntgen negative. From time to time negatives are submitted to this journal as illustrations to articles in which the shadows are so nebulous that reproduction becomes an impossibility. It should be possible to prepare a clear photographic print from any negative on which a diagnosis or opinion is based. With experience it is possible to interpret the shadows in any good negative. As indistinct skiagrams become infrequent, the distrust of the shadows as reliable aids to diagnosis will disappear.

Sicard and Forester, of Paris, have continued to work with iodized oils as substances opaque to X rays. Their discovery that iodine suspended in *huile d'ouillette* can be introduced into the body without risk of intoxication has proved itself to be of great advantage in diagnosis. "Lipiodol" is made from *Papaver somniferum*, but contains neither narcotic nor alkaloid. It includes approximately 40% of iodine. More recently Lafay has modified this preparation by reducing the specific gravity of the oily fluid. "Lipiodol Ascendant" is light enough to rise in the spinal theca, while "Lipiodol" always sinks through the spinal fluid by gravity. J. F. Mackeddle has published his experience of "Lipiodol" in the diagnosis of spinal tumours. About five cubic centimetres of "Lipiodol" are injected into the *cisterna magna* and allowed to trickle down the theca. The passage of the oily fluid can be followed on the screen. If there is a tumour or other obstruction, the "Lipiodol" is arrested at the point of obstruction. Mackeddle has

more recently recorded that with the introduction of "Lipiodol Ascendant" the necessity of inverting the patient and injecting the fluid into the lower segments of the spinal canal is obviated. "Lipiodol" is also employed for the diagnosis of bronchiectasis, abscess of the lung and pulmonary tuberculosis. The fluid is introduced into the trachea and allowed to run into the lung. It has further been employed for the purpose of demonstrating the size and shape of the uterine cavity and the patency of the Fallopian tubes. Hitherto the only disadvantage attributed to its use in the spinal theca is the occasional production of an aseptic meningitis of a transient type. Otherwise it appears to be quite harmless. It is inferior to Beck's paste for the purpose of mapping out in the skiagram the outlines of the large sinuses.

Cholecystography has become an established method of diagnosis. It is applied by injecting four centigrammes of sodium tetraiodo-phenolphthalein per kilogram of body weight into a vein in a 2% solution. The salt must be quite pure and must be sterilized before use. Excellent descriptions of the value and application of this method have recently been published in this journal by Alan Newton and J. G. Edwards. With accurate technique the skiagram of the gall bladder after the intravenous injection reveals reliable information concerning the condition of the organ. If no dye enters the gall bladder, blockage of the cystic duct may be diagnosed with complete assurance. The position, size and shape of the gall bladder can be determined by this method. The normal gall bladder empties itself after the administration of a meal containing fat. When it is seen that it is not emptied, it may be assumed that the gall bladder has lost its natural elasticity.

The opaque enema is being used for the early detection of cancer of the colon. Diverticulitis of the sigmoid colon has been shown to be a common condition by this method of examination. The opaque enema is of use for lesions as high as the splenic flexure. Other means are needed if the lesion is beyond this point. Formerly it was held that diverticulitis was a malignant process. The operation for this condition is a dangerous one and the deaths following it were attributed to cancer.

It has been shown, however, that diverticulitis yields readily to treatment by lavage and the administration of paraffin and agar.

Colin Macdonald has given a clear description of the radiographic appearances of the various forms of osteochondritis and has endeavoured to reconcile the radiographic appearances, the physical signs and symptoms, the pathology and the hypotheses of the pathogenesis of Perthes's disease and pseudo-coxalgia.

Stereoscopic radiography is being used more freely than formerly. It is invaluable for the diagnosis and localization of lesions in the chest and skull. With good technique the earliest pathological changes in the lung can be demonstrated. Spinal lesions can also be portrayed in a remarkably clear manner by stereoscopic radiography. The introduction of the hundred milliamperè Coolidge tube and of the line focus Müller tube has allowed of the use of greater milliamperage with a consequent reduction in the time of exposure. This is of importance, since it is now possible to take the two pictures of the chest for stereoscopic examination within a half to three-quarters of a second.

In connexion with radium and X ray therapy the year 1926 has not brought any great change. The struggle between the radiologists and the surgeons in regard to the value of radiotherapy in cancer is a little less acute, but still continues. The general tendency appears to be to use penetrating rays as a supplementary agent to surgical removal. Hitherto no apparatus has been devised for clinical use to deliver monochromatic X rays of a predetermined wave length. If Moppett's hypothesis be correct, it will be necessary to determine with precision the range of wave length rays that have a destructive or atrophying effect on tissue cells. Whether it would then be possible to adjust the dosage in such a manner that this destructive action could be limited to pathological cells or not cannot be foretold. It is known that with the exception of carcinoma of the *cervix uteri* carcinomatous cells are highly resistant to X rays. Good results are claimed by some radiologists in the very early stages of carcinoma, but otherwise surgical removal is regarded as necessary. In the case of the sarcomata better results are being obtained by radio-

therapy. Massive irradiation is said to yield permanent results in sarcoma of bone. A. V. Desjardins has reviewed the experience of radiologists at the Mayo Clinic and has found that glandular conditions, such as Hodgkin's disease and tuberculous disease of lymphatic glands, are influenced more favourably by X rays of medium wave length than by rays of short wave length. The same applies to leucæmia and *polycythæmia rubra*. The introduction of the water-cooled Coolidge tube enables the operator to use thirty milliampères of current at from two hundred and fifty to three hundred kilovolts. The time of exposure is therefore reduced and in consequence less radiation sickness is occasioned.

A few workers are advocating a method of dividing the dose between three or more applications on consecutive days. The majority, however, hold that a single massive dose is preferable and should be given if an efficient generating apparatus is available.

The "Kenetion" tube principle of rectification of high tension currents is being applied to X ray apparatus. It will be interesting to determine the result of the use of this type of apparatus in connexion with intensive dosage. Hitherto the "Kenetion" tube has been regarded as a laboratory adjunct. It has been employed to a very limited extent in radiotherapy.

Dermatology.

The study of diseases of the skin proceeds quietly without fanfare or waving of flags. There are relatively few workers in this field and in consequence the amount of new work of a high standard in any one year is small. There have been some suggestive observations on the subject of *purpura hæmorrhagica*. T. Fitz-Hugh defines this disease as a condition characterized by a reduction of the platelet content of the blood, termed thrombocytopenia. The bleeding time is prolonged, the blood clot does not retract normally, although the clot forms with ordinary speed. Associated with these phenomena there is a diminution of the capillary resistance. Its pathogenesis is still obscure. While some observers have isolated a hæmolytic streptococcus from the blood and wish to incriminate this coccus,

ILLUSTRATIONS TO THE ARTICLE BY DR. R. B. WADE AND DR. N. D. ROYLE.

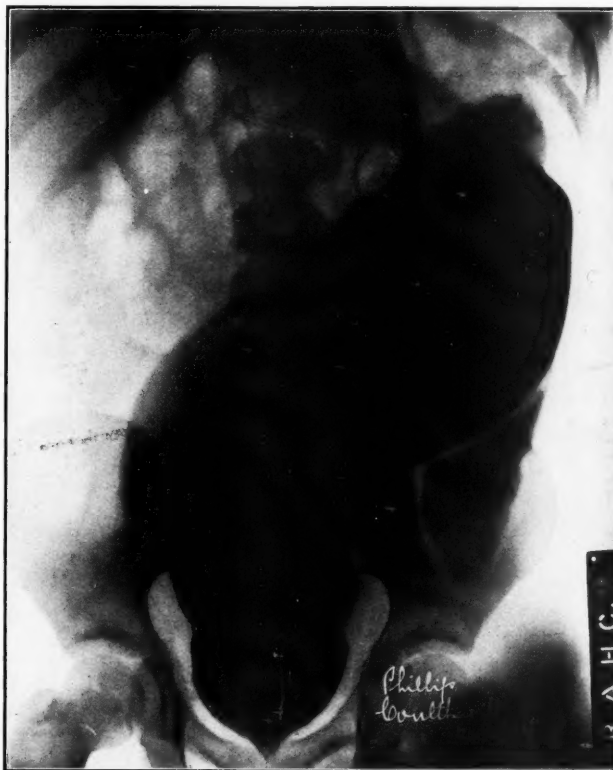


FIGURE I.
Skiagram from P.C. two years after complete colectomy.
The rectum and terminal portion of the ileum are now
distended, as was the pelvic colon before the operation.



ILLUSTRATIONS TO THE ARTICLE BY DR. R. B. WADE AND DR. N. D. ROYLE.

FIGURE II.
Skiagram from L.W., showing the even
distension of the pelvic, descending and
ascending colon before operation.



FIGURE III.
Skiagram from L.W. three months after
ramisection showing still distension of
pelvic and descending colon, but diminution
in size of ascending colon and the
presence there of segmentation.

others regard the condition as an anaphylactic phenomenon. Gedson is inclined to the view that the essential lesion is a degeneration of the endothelial cells lining the blood vessels and postulates a toxin as the cause of the degeneration. Bullmore, Little and Lahz have recorded a case with a fulminating course; in spite of the recovery of a hæmolytic streptococcus from the blood before death, their observations have not contributed to a better understanding of the pathogenesis of the disease. Neill, Julianelle and Reiman have produced a condition similar to purpura in white mice, guinea pigs and rabbits by injecting an extract of pneumococci. They have concluded that the purpura-producing agent is a dissociation product of the pneumococcal protein.

R. W. Mackenna has shown that syphilis is rarely associated with other diseases of the skin. Syphilis imitates many other diseases. On the other hand it is frequently superimposed on other diseases and when this occurs, the syphilitic virus appears to render the primary lesion more active.

Some interesting work has been carried out into the cause of *impetigo contagiosa*. Balmain is convinced that *Staphylococcus aureus* is not the infecting agent in the majority of cases, while Belding has shown that the staphylococcus isolated from an infant with impetigo was incapable of inducing the disease in adults, although the disease could be reproduced in the same infant from whom it was gained.

E. H. Molesworth has called the attention of the medical profession in Australia to the importance of careful treatment of *acne vulgaris*, a disease that can be productive of much distress in young female patients. He warns the practitioner against the use of ointments and gives minute instructions for the carrying out of mechanical treatment. Langloh P. Johnston has described a skin affection of a Noumean patient which had been mistaken for syphilis. He regards the condition as *granuloma tropicum* on the ground of the immediate response to sodium antimony tartrate treatment. No Leishman-Donovan bodies were found.

Further observations have been made of Schamberg's disease, a very rare punctate eruption of the skin of the extremities, Fordyce's disease, a hyper-

keratosis of the orifices of the sweat ducts and hair follicles, associated with intense itching, and Jadasohn's disease or *granulosis rubra nasi*, a papular efflorescence of the cartilaginous portion of the nose with much local sweating and some telangiectasis.

Reference should also be made of E. H. Molesworth's article in this journal on leprosy, in which he and A. H. Tebbutt demonstrate the frequency of giant cells in leprosy lesions. He confirms the findings of Taylor that mild forms of leprosy may exist unrecognized for a long time unless special care be taken to consider leprosy in the differential diagnosis. H. Dew has suggested that in case of difficulty, a portion of a thickened nerve should be excised and examined after staining. Tebbutt has succeeded in clinching the diagnosis in this way.

Bacteriology and Immunology.

Each year the output of original work on bacteriological subjects is so large that it might appear to be a hopeless task to summarize the more important advances in this science. The difficulty, however, is not very great, since relatively little of the published work is actually new and some of the new matter requires confirmation before it can be accepted as sound. The yield of good work in the year 1926 has been up to the average, perhaps a little larger. Ruth Tunnicliffe has continued her excellent work in connexion with the streptococcus of scarlet fever. She has compared the concentrated serum of patients with scarlet fever with the serum of rabbits immunized with the streptococcus in regard to its power to agglutinate the *Streptococcus scarlatinae*. She has further elaborated a method of testing the opsonic index of streptococci recovered from the original cultures and claims that it is possible to identify the scarlet fever streptococcus more rapidly by this method than by the agglutination test or by the test of toxin formation.

R. Tunnicliffe and A. L. Hoyne have studied the protective power of the serum of goats that have been immunized with the diplococci isolated from patients suffering from measles. These diplococci are capable of causing a condition indistinguishable from morbilli in rabbits. The immune serum of the goat was found to protect rabbits from the disease produced by the diplococci and was further

found to be as effective as the serum of convalescent measles patients in preventing an attack of morbilli in human beings.

H. Brockman and S. Popowski claim that the toxin derived from the Shiga-Kruse dysentery bacillus gives rise to a cutaneous reaction after intradermal injection in 51% of children who have not reached their third year, in 27% of children between the ages of four and sixteen and in 59% of persons between the age of sixteen and twenty-three years.

L. A. Julianelle has discovered that the removal of the capsule of Friendländer's bacillus either by hydrolysis or by chemical methods results in the loss of specificity of the organisms. He has classified Friendländer's bacilli into three sharply defined types and one heterogeneous type, by means of agglutination, absorption and precipitation. Ll. D. Felton and G. H. Bailey have postulated a protective and an antagonistic substance in antipneumococcal serum. They endeavour to explain in this way the phenomenon of failure of large doses of the serum to protect mice from the effect of lethal quantities of pneumococci, while small doses afford complete protection.

Helen Kelsey has obtained a toxin from a strain of hæmolytic streptococcus recovered from patients suffering from scarlet fever. This toxin was employed in the Dick test. Reactions were obtained in 92.3% of patients in the first four days of the disease; no reaction was produced in 85% of the patients at the end of the third week of the disease. The antitoxin produced by this toxin was found to exert a beneficial effect on the course of the disease. Five cubic centimetres of antitoxin injected into the muscles prevented the appearance of a reaction to the Dick test for at least two weeks.

N. H. Fairley and F. P. Mackie define sprue as a disease caused by some infective agency primarily involving the mucosa of the alimentary tract and leading to the generation of toxic substances which have a deleterious action on blood cells, bone marrow and the parenchymatous cells of the internal organs. They advocate the use of the fractional test meal in the differentiation between this disease and pernicious anæmia.

The application of Kahn's flocculation test in leprosy has been undertaken by M. V. Arguelles.

Although this test has proved to be of greater value than the Wassermann test in excluding syphilis and yaws in lepers, it is of less value in establishing the diagnosis of the existing disease.

The blood groups of the aborigines of northern Queensland has been investigated by D. H. K. Lee who has confirmed the findings of Tebbutt and McConnell. All three investigators place the Australian aboriginal high in the series of racial biochemical indices. Ella Grove has studied the blood groups in the Ainu and in some Filipino tribes. She reports serious limitations to the use of the Hirschfeld-Ottenberg method of classifying peoples. Tanemoto Furnhata and Takayoshi Kishi have studied the blood groups in the Japanese in the northern part of middle Japan. They have found that the Japanese belong to the intermediate type, that is that they are quite different from the Koreans, Manchus and Ainus.

H. R. Dew has continued his work on the development of hydatid cysts. He finds that daughter cysts in a typical hydatid cyst have an exclusively endogenous origin. They usually arise by progressive evolution of the cells of the original germinal membrane or from brood capsules. It is but rarely that they develop from scolices. Granddaughter cysts may arise through external herniation of both layers of thin-walled daughter cysts, but this is rare. Implantation of daughter cysts, brood capsules or scolices may produce secondary echinococcosis in the abdomen, pleura or in operation wounds. The occurrence of multiple cysts in the lungs, brain or heart is explained by hydatid emboli or metastases following intravascular rupture of the cysts.

Morbid Anatomy.

Pathology covers so wide a field that an attempt has been made in this journal to divide it into its component parts. The division, however, is somewhat arbitrary and the dividing lines are indistinct and uncertain. It would be impracticable to deal with the bacteriological factors of disease without having regard to the tissue response to the bacteria. Similarly biochemistry, microchemistry and biophysics are implicated in all bacteriological problems. The changes in tissues produced by disease processes and the appearance of abnormal cell

formations cannot be studied merely from the point of view of structure and evolution; histo-pathology involves biochemistry and immunology. It therefore follows that the morbid anatomist must be prepared to consider function as well as structure and must extend his field of research beyond his proper sphere into that of the physiologist, the biochemist, the bacteriologist and the immunologist. In this way some of the advances that have been dealt with under the rubrics of medicine, bacteriology and immunology and morphology, might have been introduced into this chapter.

The study of tissue culture has continued and progressed. Improved methods have led to the isolation of individual cells and their cultivation *in vitro* for the purpose of study.

Strangeways has shown that considerable development proceeds in the isolated and undifferentiated limb bud of fowls. It has recently been demonstrated that when chick embryo eyes are grown *in vitro*, all stages of development and differentiation are completed before full growth has been attained.

The ætiology of malignant neoplasms is still wrapped in mystery. Nicholson has suggested that tumour formation is a physiological process and that it is bound up in the factors governing growth. As long as cell growth is held in check by the inhibitory mechanism, the normal balance is maintained. When the cell is not *en rapport* with its environment, the inhibitory influence is weakened and the cell overgrowth takes place. He claims that this hypothesis brings into line the causation of congenital anomalies and of the teratomata. Unfortunately the nature of the inhibitory mechanism has not been explained and in consequence the suggestion remains a speculation. Further evidence from Gye and Barnard on the causation of cancer is awaited with interest.

Some important work has been published in connexion with the origin and nature of the melanomata. D. T. Smith has attempted to demonstrate that in the large majority benign moles are derived from epithelial cells, while the chromatophores represent the cells of origin in a few. F. Darier traces the melanomata back to mesenchymatous cells; he adduces evidence in support of the theory that the pigment cells are true melanoblasts and

not merely melanophores. J. W. Dawson has studied the subject with great diligence and has published a full account of the pathology and pathogenesis of these growths. From the available evidence including that of his own investigations he has arrived at the conclusion that the melanomata are derived from epithelial cells. This teaching must be accepted. He agrees with Darier that the pigment bearing cells are in fact melanoblasts.

G. L. Cheate has carried out some excellent work on chronic mastitis. He has demonstrated beyond doubt that there is a definite sequence of hyperplasia of the epithelium of the acini and ducts, followed by the formation of cysts and ending in carcinoma. The doubt concerning the tendency of mammary cysts to undergo malignant degeneration is thus dispelled.

H. Dew's work on testicular tumours has attracted much attention. A great deal of the material contained in his book is the result of work conducted in Melbourne. He has defined the pathogenesis of teratomata, carcinomata and sarcomata of the testis.

The thyroid gland and the pathological processes of the gland have been studied by numerous workers. G. S. Williamson and I. H. Pearse regard the thyroid gland as an organ with a twofold mission. In the first phase of activity the gland produces colloid, while in the second or resting phase the true secretion of the gland is elaborated. They suggest that the colloid is probably a vehicle for some important metabolite. They recognize a hypertrophy and a heterotrophy of the glandular tissue as well as a hyperplasia and a heteroplasia. According to their researches the process involved in Graves's disease is not a hyperthyroidism but a dysthyroidism, a process occurring in a gland that contains no colloid.

Reference has been made in another chapter of this retrospect to A. H. Tebbutt's work in regard to tuberculoid leprosy. J. Oliver has studied the origin of lepra cells and has come to the conclusion that the nodule is composed of histiocytes packed with Hansen's bacilli with few if any fixed tissue cells. He does not appear to have encountered lepra cells without any contained leprosy bacilli, nor does he discuss giant cells of the Langhans's type.

Abstracts from Current Medical Literature.

THERAPEUTICS.

Treatment of Heart Disease.

T. F. COTTON (*Canadian Medical Association Journal*, May, 1926) states that patients suffering from heart failure accompanied by what he terms congestive signs should be rested for as long as three months if necessary, until all signs of increased venous pressure have disappeared. If the auricles are fibrillating, sufficient digitalis must be given to keep the rhythm normal. Sleep must be secured by sedatives. In patients with signs of congestive failure but a normal rhythm digitalis is, of course, useless. "Diuretin" on experimental evidence seems to have a dilating effect upon the coronary arteries and so may improve the cardiac reserve by increasing the blood supply of the myocardium. A longer rest period is required when the rhythm is normal than when the auricles are fibrillating. Patients suffering from anginal pains require simple diet, carefully controlled exercise and a reduction in the length of the working day. No drugs apart from the nitrites are of constant value, though the iodides are helpful where the blood pressure is raised and "Diuretin" where the precordial pain seems due to some toxic cause. In regard to patients with structural changes, but no signs of heart failure, treatment is entirely dependent upon prognosis. The larger the heart, the worse the outlook and the more advanced the myocardial disease. Intercurrent infections are fraught with peril; without them the cardiac disease may remain stationary for years. The removal of toxic foci and careful attention during any infection are therefore essential, more especially in cases of valvular disease of rheumatic origin. Specific treatment is indicated in syphilitic aortic disease; but intravenous medication with arsenical preparations should be by smaller dosages than are usual in the treatment of syphilis without cardiac complications. Cotton, as a routine, is accustomed to treat syphilitic cardiac disease by an annual course of "Novarsenobenzol" of which he gives six or eight injections of 0.6 gramme at intervals of one week.

Acute Bacterial Infections.

L. S. DUDGEON (*The Lancet*, January 23, 1926) strongly advocates the use of perchloride of mercury and "Mercurochrome 220" in the treatment of acute bacterial infections in as early a stage as possible. Dudgeon has undertaken treatment in three hundred and thirty such cases with one or both of these preparations. Twenty-five of the three hundred and thirty patients were moribund when the treatment commenced. There were forty-seven deaths, including those of six patients with malignant endocarditis. As a first dose five cubic centimetres of a one in 1,250 solution of perchloride of

mercury are usually administered intravenously and repeated in twelve to twenty-four hours according to the patient's condition. The highest dose of this concentration has been seven cubic centimetres and this only when the chances of recovery seemed remote. A mercurial stomatitis may develop with dosages of this size. If four injections over a period of three days fail to produce improvement, the treatment in Dudgeon's experience will prove valueless. The perchloride solution should always be a fresh preparation. A little blood is first allowed to flow into the syringe from the vein and the perchloride solution is then injected. Thrombosis is a possible complication, but is avoided by observance of the necessary dilution and if none of the solution is injected until blood is seen to flow freely into the syringe. Escape of the fluid into the surrounding tissues may cause severe thrombosis and local necrosis. Severe diarrhoea may also occur and call for appropriate treatment. The possibility of nephritis is much dreaded; Dudgeon has not encountered it. The treatment must not be attempted if the urine contain albumin or casts. The temperature may rise and rigors follow the injection. In a favourable case the temperature will fall to normal or thereabouts in twenty-four to forty-eight hours or further treatment may be necessary. The chances of benefit vary inversely with the duration of the illness. "Mercurochrome 220" is the disodium salt of dibrom-oxymercuro-fluorescein. It is readily soluble in water and not affected by moderate heat or exposure to air. It contains 26% of mercury. A 1% preparation of the drug will not produce a precipitin in hydrocele fluid. Dudgeon has used this substance in one hundred and fifty acute bacterial infections. In normal saline solution "Mercurochrome" is hemolytic, but this property is considerably reduced in the presence of blood serum or plasma. For intravenous injections a strength of one in two hundred, one in five hundred or one in seven hundred and fifty may be used without evil results. Daily injections are administered for five days and it seems possible that the preparation may be safely used for even longer periods. Rigors not uncommonly follow the injection, but may be avoided by the use of "Aspirin" in hot tea. To escape the risk of producing stomatitis no dilution higher than one in two hundred should be employed and this for not more than three injections. More concentrated solutions have been known to produce a severe nephritis.

Treatment of Chronic Gonorrhoea.

R. LENZMANN (*Deutsche Medizinische Wochenschrift*, September 17, 1926) discusses the treatment of chronic gonorrhoea. Whilst treating patients suffering from syphilis with malarial injections it was noted that gonorrhoea when present was cured despite resistance to the more usual methods employed. Seventy-three patients, sixty-eight females and five

males, have been so treated. With all the males failure to find gonococci has followed the strictest chemical, mechanical and biological tests. Apparent cure was obtained with 78% of the females. Ten cubic centimetres of blood from a patient with malaria are injected intravenously. It is immaterial at what stage in the cycle the blood be withdrawn. Rigors usually occur on the fourth or fifth day and these can be controlled with quinine given by the mouth. If the temperature persists, intravenous injections of quinine or "Salvarsan" are substituted. No bad after effects have been noted and the period of treatment has also been greatly shortened.

Respiratory Infections.

J. BRENNEMANN (*Journal of the American Medical Association*, September 11, 1926) discusses the medical treatment of chronic non-specific infections of lungs and bronchi in children. Under this head he includes chronic and recurrent bronchitis, bronchitis with asthma, unresolved pneumonia, lung abscess, bronchiectasis, chronic empyema and some types of massive lung collapse. The important measures in treatment are rest, hygiene, nutrition and lastly drugs. Rest is necessary for fever, weakness or fatigue, absolute rest in bed being necessary more often than is supposed. Fresh air on a verandah or by open windows is essential. Ultraviolet rays or sunlight have a good effect. Cod liver oil is useful in some cases. A general mixed diet and plenty of it is advisable; milk is not necessarily well borne. Iron is a useful tonic at times. Opium is by far the most useful drug, especially if given in some syrup for children; it does not cure, but it relieves the patient. It is not necessary when the patient is not distressed or when it prevents expectoration. Steam inhalations in all forms appear to relieve. Vaccines either curative or prophylactic, are rarely indicated to prevent colds or influenza. Chronic or recurrent bronchitis and asthmatic bronchitis should be regarded as possibly due to sinus infections, adenoids or recurrently inflamed tonsils and treatment should be carried out accordingly. Contact with infected persons must be avoided. Up to three or four years of age the tonsils are rarely the cause of recurrent bronchitis, the child has an abnormally sensitive mucous membrane, sensitive to cold, dust, coughing, draughts, absence of fresh air and sunshine and removal of tonsils at this age rarely does good.

UROLOGY.

"Mercurochrome" in Urological Conditions.

H. W. E. WALTHER (*New Orleans Medical and Surgical Journal*, June, 1926) reports favourably on the intravenous use of "Mercurochrome" in

gonococcal prostatitis, epididymitis and arthritis. It is a grave misconception to think that massive doses are required and that a reaction is necessary in the production of results. From two to ten centimetres of a freshly prepared 1% solution are sufficient and the injection may if necessary be given every two or three days. Up to fifteen injections may be required. The solution should be warmed before injection, but not boiled. The author discusses results obtained in his patients, he failed to observe any clinical improvement in about 30%. The actual figures are: Gonococcal prostatitis, 482 patients, 312 improved, 170 not improved; non-gonococcal prostatitis, 112 patients, 76 improved, 36 not improved; gonococcal epididymitis, 66 patients, 18 improved, 48 not improved; gonococcal arthritis, 22 patients, 19 improved, three not improved.

Pyelovenous Backflow.

F. HINMAN AND M. VECKI (*Journal of Urology*, March, 1926) have performed experiments on rabbits to determine the fate of the contents of a closed hydronephrosis. Phenol-sulphonaphthalein solution was injected into the renal pelvis and the ureter was securely tied. The animals were killed at various periods thereafter. It was seen that practically all the dye disappeared from the renal pelvis in four days, very little being left even after two days. This indicates that the content of a closed hydronephrosis is neither cumulative nor stagnant, but undergoes a continuous change, fresh material being secreted by the kidney and the excess being removed by active reabsorption. The authors, basing their belief on previous experimental results, think that this reabsorption occurs from the renal pelvis directly into renal veins. In other words a pyelovenous backflow occurs.

Spermatocele.

M. DORNE (*Journal of Urology*, April, 1926) discusses spermatoceles and their mode of origin. A spermatocele may be defined as a cyst originating in the scrotum which is or has been in communication with the semen-carrying system. Virchow advanced the view held generally that spermatoceles are retention cysts. True spermatoceles contain a milky or soapy fluid in which are found spermatozoa, lymphocytes, fat globules and epithelial cells. The fluid is feebly alkaline or neutral with a specific gravity of 1000 to 1009 and containing from 0.2% to 0.5% of albumin. The most constant site from which spermatoceles arise, is the region of the *vasa efferentia*. These ducts are 0.6 millimetre in diameter, being wider than the seminiferous tubules on their proximal side and than the *coni vasculosi* on their distal side. This anatomical arrangement places the *vasa efferentia* between two areas of comparatively narrow width and as the testicle and the head of the epi-

didymis are covered by a dense capsule which would impede the formation of retention cysts, while the *vasa efferentia* are surrounded only by loose connective tissue, it is seen that dilatation of these ducts can easily occur. The *vas aberrans inferior* has an origin similar to that of the *vasa efferentia* (Wolfian body) and since it has similar surroundings, together with the fact that it ends blindly, it can be considered as a point predisposed to the formation of retention cysts. The *vas aberrans inferior* springs from the duct of the epididymis or from the lower end of the *ductus deferens* and so is in communication with the semen-carrying system. On the other hand, the sessile and pedunculated hydatids as well as the paradidymis are isolated from this system. Spermatoceles usually occur after middle life and are not so rare as is generally supposed. They are found in 8% of all cadavers. As a rule they do not cause symptoms unless, when attaining a large size, their weight causes dragging pain. The patient usually seeks advice because he thinks he has a third testicle. Radical excision is the proper method of treatment.

Electro-Coagulation of Vesical Tumours.

K. SCHEEL (*Zeitschrift für Urologie*, September, 1926) divides vesical growths into benign and malignant papillomata, papillary carcinoma, solid carcinoma. Innocent growths are associated with painless hæmorrhage often at long intervals, whilst malignant growths are accompanied by more chronic attacks of hæmaturia, although less blood is lost at each attack. Electro-coagulation can be used to differentiate between the two conditions; innocent growths react at once and disappear. The bladder should be filled with a dilute solution of silver nitrate following operation and "Urotropine" administered until the necrotic areas separate. Repeated cystoscopic examinations are required for the discovery of any recurrence or formation of new tumours. Cystoscopy should be done every month for the first six months and every two months until the end of the first year and every quarter during the next year. Many cases have been recorded in which recurrences have taken place and in which cure was not obtained for two to five years later.

Hæmaturia in Hydronephrosis.

J. GOTTLIEB (*Zeitschrift für Urologie*, February, 1926) has not been able to find any mention of hæmaturia in hydronephrosis in the Russian literature. He regards it on occasions a very apparent although not a cardinal sign. He quotes two cases which were of special interest, because the hæmaturia was the only sign or symptom and because no reason could be found for it until pyelography revealed the presence of hydronephrosis. The first case was that of a young female who

experienced short periodic attacks of hæmaturia after bodily exertion or after consuming highly seasoned food and alcohol. At operation a large hydronephrosis was found, due to compression at the ureteropelvic junction by an accessory renal artery and vein. The second case occurred in a young man who had attacks of hæmaturia after periods of standing or walking; when he went to bed the hæmaturia ceased. Pyelography revealed a large hydronephrosis and also the fact that the kidney assumed a much lower level than normal when the pelvis was filled. This was confirmed at operation. The author then proceeds to discuss the literature on the subject of hæmaturia with hydronephrosis and quotes many authorities. This sign was first mentioned by Israel in 1894. He regarded it as a rare sign, but as the cause of many diagnostic errors. Several theories are advanced to account for its causation. Israel maintains that it is due to the occurrence of venous stasis of the kidney when the renal pelvis is distended with the retained urine during attacks and that the blood is released through the renal tubules to mix with the urine in the pelvis and appear after the attack. Another theory is that the bleeding occurs into the renal pelvis when the temporary obstruction to the flow of urine is overcome, thus causing a partial vacuum from the sudden fall of pressure. This was disproved by Israel who withdrew blood-stained urine from a hydronephrotic pelvis before the distension was released. The author does not agree with either view, because in both of his patients the hæmaturia appeared without any evidence of retention of urine in the hydronephrotic pelvis or sudden evacuations. He maintains that the most likely explanation is that a passive hyperæmia is produced by a sinking of the enlarged kidney and a kinking of the vessels, following standing in the erect attitude and exertion or induced by alcohol and highly flavoured, irritating food.

"Collargol" and Urinary Tract Infections.

H. BOEMINGHAM AND W. POLLAK (*Wiener Medizinische Wochenschrift*, September 25, 1926) have investigated the manner in which oral administration of "Collargol" affects urinary tract infections. Doses of various strength were given to dogs and no silver was obtained from the urine. Similar experiments with human beings equally yielded no results to chemical and bacteriological tests. Contrary to the findings of other observers no traces of silver were obtained from the leucocytes found in the urine. The authors conclude that the undoubted value of this method of treating urinary infections is not dependent on any direct action on the kidneys or urine, but is due to its antiseptic properties in the intestine inhibiting the growth of flora which are largely responsible for renal lesions.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Coast Hospital, Little Bay, on October 4, 1926. The meeting took the form of a series of clinical demonstrations by members of the staff.

Osteitis Deformans.

A male patient, aged sixty-eight years, had been admitted on August 6, 1926, with a fracture of the left femur and with some anterior displacement of the proximal fragment. The patient had stated that his leg snapped while he was walking. The patient had lived in Sydney all his life. Venereal infection was denied. The patient gave a vague history of other bones having been fractured. He had been told that he had "fragile bones." There was a definite history of fracture of the right femur on two occasions from trivial cause. Union had occurred on each occasion. Attention had first been called to a deformity in his tibia fourteen years previously. Both tibiae manifested a sabre-shaped deformity that curved forwards and laterally. The bones were uniformly increased in size. The deformity caused no discomfort or disability. It had seemed to increase in size until four years previously and since that time had been stationary. No other bony deformity was present. No change had occurred in the size of the head and no kyphosis was present. Some disturbance of the trophic function of the skin over the front of the left tibia was evident. On examination a slight murmur was audible at both the mitral and aortic cardiac areas. The apex beat was in the normal position. No abnormality could be detected in any of the other systems.

Tumour of the Thyreoid.

A male patient, aged sixty-six years, had been admitted on April 3, 1926, with a history of swelling in the left side of the neck observed for the first time in the previous August. The only symptom had been pain the left side of the neck radiating up beyond the left ear and over the left eyebrow. Pain had occurred in spasms and usually at night. There was no history of other illness. The patient denied venereal infection. The serum had not reacted to the Wassermann test. On admission temperature, pulse and respiration had been normal. An enlargement of the left lobe of the thyreoid extended from the thyreoid cartilage above to the clavicle below and backwards, almost to the border of the trapezius muscle. The tumour was superficial to the sterno-mastoid muscle. In some places it was cystic and in others solid. It moved on deglutition. It could be displaced from side to side, but not in an up and down direction. The pupils were small, equal and normally active. The knee jerks were exaggerated and on examination of the circulatory system an occasional extra systole was heard.

Alcoholic Cirrhosis of the Liver.

A male patient, aged forty-eight years, had been admitted on October 6, 1926, with a previous history of alcoholism. For two weeks he had suffered from increasing dyspnoea and jaundice with abdominal enlargement. No hæmatemesis had occurred. On admission the patient had been pale and his conjunctivæ jaundiced. Superficial varicose veins had been present on the chest and abdomen and the liver extended 6.25 centimetres (two and a half inches) below the costal margin. Free fluid was present in the abdominal cavity. The heart and lungs were normal. No oedema was present in the lower limbs and the serum had not reacted to the Wassermann test. *Paracentesis abdominis* had yielded a litre of yellowish fluid. The sputum had been obtained on six occasions and no tubercle bacilli were found. The urine contained bile, but no albumin.

Acute Anterior Poliomyelitis.

A male patient, aged seventeen years, had been admitted to hospital on January 18, 1926. Three days prior to admis-

sion he had complained of headache and of cramp-like pain in the calves of his legs. The following morning on attempting to rise, the right leg had given way under him and later in the day similar weakness of the left leg had been manifest. On the day prior to admission all power in both legs had been lost except in the toes of the left foot. He had been unable to pass urine and his bowels had not acted since the onset of symptoms.

On admission to hospital his temperature had been 37.8° C. (100° F.). His pulse rate had been 100 and his respiratory rate 20 in the minute. He had looked healthy. His cardiac, respiratory and alimentary systems had been normal. Examination of the nervous system had revealed normal pupils, normal ocular movements and normal cranial nerves. Weakness of both deltoid muscles and of the right triceps had been found. The patient had been unable either to sit up or turn on to his side. He had suffered from retention of urine. The right lower limb had been completely paralysed and paralysis of the left lower limb had been complete except that he was able to flex and extend his toes. Sensation had been unimpaired.

For three weeks considerable pyrexia had been present. On several occasions the temperature had been more than 38.9° C. (102° F.) during the first week. The temperature had then fallen and remained fairly normal except for occasional rises. Bladder control had returned in about one week. On March 30, 1926, he had been placed on a Saurian splint and remained on this for twelve weeks. He had then been fitted with double Thomas walking callipers and had been encouraged to attempt walking with the aid of crutches by swinging the limbs from the hips. He had also received massage and been made to do exercises. At the time of demonstration there was no evidence of recovery of power in the lower limbs and considerable wasting was present in the upper limbs. The deltoids had recovered completely, but the right triceps was still weak.

Injury to the Cauda Equina.

A male patient, aged fourteen years, had been admitted to hospital on October 13, 1926. Three days prior to admission he had fallen from a tree, had alighted on his feet, but fell to the ground striking the left lumbar region on a stone. Both feet had immediately turned inwards and he lost all power to move them. Movement of the feet had caused pain. On admission both feet were in the *varus* position and some pain had been present in the lower lumbar and sacral regions. X ray examination had revealed no abnormality of the spinal column. At the time of demonstration the patient had no pain. Passive movement was being used for the feet and the ankles were flaccid. The tactile, thermal and pain sensibility of the feet and of the lower third of each leg was still affected.

Tuberculous Disease of the Spine.

A male patient, aged twenty-three years, had been admitted to hospital on August 5, 1926. According to the patient's history, obtained from his friends (he could not speak English), he had two operations on the left side of his chest (? thoracotomy). Six months previously an abscess had burst in the right supraclavicular region and this had discharged pus ever since. Examination on admission had revealed the presence of a sinus opening on the right side of the cricoid cartilage and extending downwards by the side of the spinal column. A large abscess had been present in the left axilla and a deep seated abscess had been found on the left side of the spinal column in the dorsal region. Pus from all these abscesses had contained tubercle bacilli. It was pointed out that the more superficial abscesses had healed after drainage. The sinus in the neck had been drained by a pump attached to a catheter which passed downwards to the fourth dorsal vertebra.

According to the X ray report destruction of the intervertebral structures had taken place between the second, third and fourth dorsal vertebrae with fusion of their bodies.

Gout.

A male patient, aged sixty-four years, had been admitted on October 11, 1926, with an inflamed right elbow. The

right elbow had been enlarged but painless for some years. The patient had been treated for gout in the foot six weeks previously and had fallen and hurt his right shoulder and elbow. One week previously he had noticed an inflamed area around the right elbow. This had subsequently burst. On admission two small abscesses had been found in the interphalangeal joints of the left hand. All these had been incised.

Weil's Disease.

A Chinese, aged forty-years, had been admitted on October 28, 1926. It had been impossible to obtain much detail of his previous history. He had been ailing for six weeks with a feeling of weakness and intermittent abdominal pain on the left side of the abdomen and of the chest. The pain had not been very severe and did not radiate to any other region. No vomiting had occurred. The patient had complained of an irritable skin.

Examination had revealed extensive jaundice and his tongue was coated. The abdomen had been soft, no rigidity was present, no tenderness was detected in the abdomen, but deep tenderness was present over the left side of the chest.

The liver had been enlarged, but no mass was palpable in the abdomen. It had been difficult to elicit knee jerks. The urine was dark coloured and contained much bile. The stools were clay coloured and contained some dark blood. The blood picture was as follows:

Erythrocytes, 4,000,000 per cubic millimetre;

Hæmoglobin value, 115%;

Colour index, 1.4;

Leucocytes, 8,000 per cubic millimetre.

X ray examination of the chest had failed to reveal any abnormality and the other systems were clear.

It was thought that the patient was possibly suffering from Weil's disease.

Intertrochanteric Fracture of the Femur.

A male patient, aged fifty-four years, had been admitted to hospital on October 22, 1926. While attempting to board a moving omnibus on the day before admission the patient had been knocked against a telegraph pole. He had experienced severe pain in the right hip, but had continued his journey in the 'bus and later caught a tram and after alighting walked to his work, a distance of about twenty yards. One and a half hours later he had reported to Saint Vincent's Hospital and on examination by X rays was found to be suffering from a fracture of the femur. He had then been admitted to the Coast Hospital.

Examination on admission had revealed no limitation of movement, no displacement and no shortening of the limb. Tenderness had been present over the great trochanter on the right side. After X ray examination a report had been received of intertrochanteric fracture of the right femur in good position. The leg had been placed on a Thomas's knee splint with extension.

Diabetes Mellitus, Neuritis, Cataract and Carbuncle.

A male patient, aged sixty-two years, had been admitted to hospital on October 13, 1926.

One week prior to admission he had noticed a swelling on his back which became very painful. He had complained of no symptoms suggestive of diabetes, except "neuritis" for the previous six months. No previous history of illness had been obtained, except that of "gastro-tritis" three years and dengue fever one year previously. Examination revealed the presence of a double cataract, a large carbuncle on the back below the left scapula and the presence of sugar in the urine. The blood sugar on the day before the meeting was 0.120%.

Tuberculous Disease of the Knee Joint.

A male patient, aged twenty-seven years, complained that two years previously he had bumped the left knee while riding. Later on his knee had become painful and stiff with swelling and since February, 1926, the leg had been on a back splint. In February, 1926, the patient had been an inmate of the Coast Hospital. Examination in August,

1926, revealed a fusiform left knee joint with wasting above and below. Movement had been limited by pain on fixation, but extension was painless. The cardiac apex beat had been situated in the fifth intercostal space 1.25 centimetres (half an inch) outside the middle line. The diastolic murmur had been audible at the aortic area. The other systems were clear. X ray examination had revealed necrosis of portion of the superior part of the patella and also necrosis of part of the distal condyle of the femur. A series of old tuberculin injections had been given on August 11, 1926; 0.3 mil (five minims) of a one in a thousand solution had been given at 11 p.m. As no reaction occurred, one mil (fifteen minims) of a one in a thousand solution of old tuberculin had been given at 11 p.m. on August 13. Before the second injection the site of the first injection had become a little painful and the patient had complained of twitching in the knee and slight elevation in his temperature had been recorded. On August 15, 1926, a good local and general reaction had occurred.

Osteomyelitis of the Tarsus.

A female patient, aged fifty-six years, had been admitted to hospital on September 17, 1926, with a history of having sprained her foot ten days previously while dancing. The dorsum of her foot had become very swollen and tender. Several weeks previously she had stumbled on the stairs, but did not think that she had hurt her foot. Examination on admission had revealed a swollen, red and tender area on the dorsum and lateral aspect of the foot. The temperature had been 38.7° C. (101.8° F.) and she had complained of great pain in the foot and ankle. No glands had been palpable in leg or groin. X ray examination had revealed rarefaction of the bases of the second, third, fourth and fifth metatarsal bones and also rarefaction of the cuneiform and cuboid bones. The limb had been placed in a box splint and the swelling, pain, tenderness and fever had disappeared within six days. It was thought that the lesion was possibly tuberculous.

A female patient, aged forty-four years, had been admitted to hospital on October 13, 1926. Eighteen months previously the patient had noticed slight swelling of the dorsum of the right foot. This had subsided. Nine weeks prior to admission the patient had suffered from sudden, severe pain in the right instep which came on while she was sitting down. The dorsum of the right foot became swollen and dusky and this was most noticeable on the outer side. Two days later she had been treated with "Antiphlogistine" and was admitted to the Royal South Sydney Hospital where the foot was incised and pus evacuated. The wound had healed in six days and in another week the patient was able to leave hospital, but the foot continued to swell and became painful if she attempted to walk. The patient's previous history was clear and her family history revealed no evidence of tuberculosis. Examination on admission to the Coast Hospital had revealed a discoloured foot which was oedematous and manifested signs of chronic inflammation. Considerable tenderness had been present along the dorsum of the foot. X ray examination had revealed necrosis of the medial aspect of the talus, necrosis of the navicular and cuneiform bones and of the bases of all the metatarsals and the distal portion of the cuboid. Since admission the patient had been afebrile and had not complained of pain. It was thought that the lesion was possibly tuberculous.

Alcoholic Peripheral Neuritis.

A female patient, aged thirty-two years, had been admitted to hospital on August 30, 1926, with a history of frequent epigastric pain and vomiting together with numbness of both legs and inability to stand for one week. The patient had not complained of pain in her legs, but admitted chronic alcoholism.

On examination no abnormality had been found in the abdomen with the exception of some epigastric tenderness which soon disappeared. The signs present on admission had been the same as at the time of the meeting. Lumbar puncture had yielded thirty-five centimetres of clear fluid under increased pressure. This fluid had contained no cells and had not reacted to the Wassermann test. Paresis of both lower limbs was present on all attempts at move-

ment. Foot drop was present. Paresis was also present in the upper limbs and this was more pronounced on the left side. The patient dragged her feet when she walked and had a high steppage gait. No incoordination or wasting was present. Sensation to light touch was absent in the lower limbs and impaired in the upper limbs. The perception of painful stimuli was also impaired below the level of the tenth thoracic nerve. Both knee jerks and ankle jerks were absent and no ankle clonus could be elicited.

A MEETING OF THE QUEENSLAND BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, Adelaide Street, Brisbane, on September 3, 1926, Dr. E. SANDFORD JACKSON, the President, in the chair.

Orthopædic Surgery in America.

Dr. A. V. MEEHAN gave an account of his visit to orthopædic surgeons in America. He said that in most countries orthopædic surgery was still struggling for recognition as a special branch of medicine, but that in America it had definitely secured its place and the numerical strength of its disciples might be gauged from the fact that in the city of Boston, whose population was about one million, the orthopædic surgeons numbered nearly forty. After reference to the cordial way in which he had been received by surgeons in all parts of the United States, Dr. Meehan said that he intended to refer only to a few points which appeared to him to be likely to benefit those present in their everyday work.

The Americans excelled in the keeping of clinical records and in all the clinics and also in private practice it was considered essential to have not only complete records from the time that the patient first presented himself for examination, but also to have a so-called "follow up system" by which the practitioner kept in contact with the patient for years after he had completed treatment. By this means an accurate estimate of the effectiveness of treatment could be made and the surgeon was not so prone to jump to the conclusion that a patient was cured because he happened to be well when he had completed a short course of treatment or had been subjected to an operation with early relief of symptoms. Moreover, when accurate records of the work of a busy practitioner or clinic were kept, real information was available to the investigator as to the effectiveness of various forms of treatment and as to the prognosis in various conditions; also statistics which really meant something, could be compiled from such records.

Dr. Meehan next referred to the subject of anæsthesia. He said that in all the centres which he had visited, he found that ether anæsthesia was practically replaced by the use of nitrous oxide, ethylene and oxygen. The apparatus used consisted of a cylinder of each of these gases and any or all of them could be turned on at will. He understood that when deep anæsthesia with absolute muscle relaxation was required, a little ether was used as well, but as most of the operations seen by him had been carried out on the spine or on the limbs, the necessity had not arisen for this. The ease of inducing anæsthesia, the good condition maintained by the patient and the absence of shock even in extensive operations such as hip arthroplasty and spinal fusion, had impressed him very forcibly, in contrast with the cyanosis and symptoms of respiratory irritation so often seen in ether anæsthesia. The apparatus was procurable in various sizes and one size was suitable for transportation in an ordinary motor car. Larger sizes, suitable for use in large hospitals were also obtainable. Ether was generally regarded as a safe anæsthetic, but the fact remained that it proved in many cases an irritating substance to the mucous membrane of the respiratory tract and troublesome symptoms arose which were not by any means without risk in a long operation.

Another aspect of hospital work which had impressed him greatly, was the free exchange of opinion between the various members of the staff. In many cases weekly "grand rounds" were held in which all the members of the surgical staff participated and in university hospitals

a professor often formed one of the party. During such rounds each clinician had to show the other members of the staff, both senior and junior, what he was doing and was asked his reasons for the faith that was in him. In exchange he got the benefit of the best obtainable opinions in consultation and this benefit was passed on to the patient. Such a procedure seemed to Dr. Meehan to make for harmony and good feeling among the members of the staff and was a system which he would like to see instituted in Australian metropolitan hospitals, especially in Brisbane where consultations were all too few and where the medical student was not present to stimulate the honorary into a scientific perception of his work by incessant and often very apt questions.

He had been somewhat astounded at the prevalence of tuberculosis of bones and joints, particularly in the northern and western States. The condition was still a real scourge and results obtained by conservative measures were still very doubtful. As a consequence there was in America a definite inclination towards operative treatment, not with the idea of completely ablating the diseased area, but with the object of obtaining ankylosis of the affected joint in a useful position. The leader in this work was Dr. Russell Hibbs, chief surgeon of the New York Orthopædic Hospital and Dr. Meehan thought that a brief *résumé* of his views on the subject would not be out of place. At the country branch of the New York Orthopædic Hospital Dr. Hibbs had been able to watch patients with tuberculosis of joints for years under conservative treatment. Many of these patients suffered from tuberculosis of the hip joint and after, say five years of treatment he regarded a number of them as being cured, because the patient was able to take moderate exercise without symptoms and because the general condition was good. Very often a certain range of movement was present in the joint. It had been found that a relapse of symptoms occurred in a very high percentage of these patients at varying intervals, the period without symptoms depending to a large extent on the amount of strain which the patient put upon the joint in his activities. Conservative treatment had then to be commenced anew and the patient was condemned to a fresh period of inactivity. During the enforced rest of conservative treatment the bones constituting the diseased joint underwent extreme atrophy due mostly to lack of use. This condition was very unfavourable to healing of the joint by Nature's method of bony ankylosis. Many attempts to induce such joints to ankylose by operative measures had failed and the cause probably lay in the fact that such operations had dealt with the active area which consisted of diseased and atrophied bone of very low osteogenetic power.

In spinal caries Albee and Hibbs were both able to secure ankylosis between the diseased vertebræ without encroaching upon the area of disease. The former used an autogenous tibial bone graft inserted into the spinous processes and the latter a more complete fixation in which articular processes, laminae and spinous processes were induced to fuse together into one strong sheet of bone. The tendency was to apply the principle of this method as far as possible to other diseased joints, the object being to secure ankylosis by operations in which the diseased area was as far as possible avoided. Thus in regard to lesions of the hip joint Hibbs had published a preliminary report of a method in which most of the great trochanter together with some of the shaft of the femur was freed and swung across the superior aspect of the joint to act as a bone graft, the upper end of the graft being fitted beneath a bone flap raised up from the ilium and the inferior aspect of the graft being firmly in contact with the superior surface of the neck of the femur, the latter having been freshened so as to favour bony fusion with the graft. Of the first twenty patients operated on by this method eighteen had obtained definite bony ankylosis. The average duration of disease in these patients before operation was eight and a half years and they had practically all had long periods of conservative treatment. These results were very encouraging, although the work was only in its preliminary stage.

The treatment of scoliosis, particularly the paralytic type, had in the past been very disappointing. Many

methods had been devised whereby the curves had been definitely decreased by mechanical means, but the spine had relapsed into its previous condition when treatment ceased and no appliance was known which would permanently maintain the spine in the corrected position. At the present time in many leading American clinics paralytic scoliosis was being treated by spinal traction until improvement in the curves became stationary. The Hibbs operation for spinal fusion was then performed, all the vertebrae taking part in the major curve being made to fuse. This method seemed to be a distinct advance on any previous suggestion as to treatment of this distressing deformity and Hibbs's figures revealed very fine results.

Dr. Royal Whitman's method of treatment of fracture of the neck of the femur was universally adopted by orthopaedic surgeons and in the hands of its originator 60% of successful results were obtained. Other surgeons had claimed up to 70% of cures by the same method. To Whitman was due the credit not only of realizing that fracture of the neck of the femur in old people was worth treating, but also of evolving the technique of reduction and the details of after treatment. Prior to this piece of work an elderly patient with a fracture of the neck of the femur was condemned to life-long pain and invalidism at the best. Union was very rarely achieved. Briefly, this method consisted in the application of the general principles of fracture treatment elsewhere to fracture of the neck of the femur; in other words the fracture was reduced and the reduction was maintained by external fixation. The patient was anaesthetized and strong traction was exerted on the injured limb until full length was obtained; at the same time the limb was abducted to the full range as tested by abducting the sound limb. Finally the limb was rotated inward and the fractured ends were thus brought into apposition. A plaster cast was then applied from axilla to toes so as to control hip movement completely. The patients were remarkably comfortable and the risk of hypostasis of the lungs was lessened by turning them into the prone position at regular intervals. When he had settled down to his conditions the patient could be taken out into the open air and sunshine and if surroundings were suitable he could be sent home. Dr. Meehan had seen many of these patients at varying intervals after reduction of the fracture and was deeply impressed by their good condition and contented demeanour. The main difficulty about the method was that it was not suitable for general application, as it required special training in the use of plaster of Paris. Some form of special apparatus, preferably but not essentially a Hawley fracture table, was required to enable the surgeon to apply a plaster cast from axilla to toes while the correction and extension were still maintained. If the necessary skill and adequate plaster bandages were available, the method could be applied by the use of a simple pelvic rest only. Fixation was maintained for twelve weeks and full weight bearing was not allowed for at least another twelve weeks. Although this method was one of the greatest modern advances in the treatment of fractures and had revolutionized the outlook of patients with fracture of the neck of the femur, it was rather a reflection on the medical profession that the vast majority of patients with this injury were still allowed to go untreated.

In conclusion Dr. Meehan emphasized the advantages of a trip abroad to those who practised their profession in an isolated community such as that of Brisbane. The time needed for such a trip was not very great and the advantages gained were not to be measured by the sacrifices, monetary and otherwise, which were necessary. In fact he was certain that if patients realized how much it was to their advantage that their doctors should take such trips, they would club together to relieve the doctors of the financial burden!

Radiology Abroad.

Dr. VAL McDOWALL gave an account of impressions gathered during a visit to various radiological clinics abroad. He had been fortunate enough to travel on the *Aorangi* with Dr. McEachern, of the American College of Surgeons. Dr. McEachern had been extremely kind in helping him to map out an itinerary and in other ways.

Dr. McDowall also spoke of the hospitality and kindness which had been accorded him in his journeyings.

At the General Hospital in Vancouver Dr. McDowall found that Dr. McIntosh had a large and well equipped X ray department doing excellent work. The technique was very much the same as in Australia. In therapeutic X ray work the type of treatment tended mostly towards that of a ten inch gap. The hospital staff at Vancouver had been greatly interested in a patient with chyluria in whose blood filaria had been found. Evidently the disease was a most unusual one in those parts and was probably imported. He thought the staff had been somewhat sceptical when he told them of the prevalence of filaria in Queensland and that he would prefer to see something else instead.

Tuberculosis was very prevalent amongst the Japanese in Vancouver.

At the Vancouver General Hospital there was, as far as he could gather, no honorary staff. The men sending patients into hospital could choose either to attend the patients themselves or they could arrange for some specialist, surgeon or physician to attend to them. Patients unable to pay were admitted free. The accommodation comprised public wards, semi-private wards and private rooms. There were also children's wards and maternity wards. All wards were steam heated. This was the prevailing custom both in Canada and the United States. The children's wards were well arranged and the staff claimed to have stamped out the spread of infectious diseases amongst the juvenile hospital patients. This was accomplished by building glass partitions, about two metres high, between the cubicles and in each cubicle one or two patients were practically isolated from their neighbours, clothing and utensils being handled and sterilized separately.

At both Vancouver and Toronto during opaque meal examinations fluoroscopy was not regarded as of primary importance, but serial pictures of the pylorus and duodenal cap were looked upon as of the most importance. The subsequent course of the meal was also followed rather closely, especially in regard to the emptying time of the stomach and the passage of the meal through the large intestine. In this respect the Canadians seemed to differ somewhat from the radiologists in the United States.

In a heart section of the hospitals considerable use was made of the electro-cardiograph.

The kitchens were wonderful examples of cleanliness. A carefully worked out diet scale was ordered by the hospital dietitian and there was a dietitian on every hospital staff.

At Toronto Dr. Richards had two deep therapy plants in use. They were enclosed in lead lined rooms and the patient was protected by lead rubber sheets. Dr. Richards thought that the results were on the whole satisfactory, although curative as much as palliative results should not be expected. Even under these conditions they were planning for increased accommodation in this department. Dr. Richards also used ultraviolet rays and light therapy very considerably. For six months in the year at Toronto, although there might be sufficient sunlight, the temperature was too low to allow the exposure of patients in the open air to the sun's rays.

One of the most important places visited in the United States was the Mayo Clinic at Rochester, Minnesota. Here there was a tremendous quantity of clinical material and the opaque meal examinations numbered anything from forty to eighty a day. There were of course innumerable heads, chests and urinary tracts examined also. A most interesting feature of the Clinic, a feature which could with advantage be followed by hospitals in Brisbane, was the weekly meeting of the staff at which any cases of interest and all *post mortem* examinations held during the week were discussed. At these meetings only the staff and a few specially invited visitors were present. Lantern slides of the clinical history were thrown on the screen and the physician or surgeon in charge discussed any noteworthy details. In addition the radiological report with radiographs, the pathologist's report and microphotographs of specimens were also thrown on the screen. *Post*

mortem findings were given and then after a brief discussion, the next case was similarly reviewed.

The X ray department was nominally under the control of Dr. Carman, but as he had not been in good health for some time, Dr. Moore and Dr. Sutherland were really in charge.

During the opaque meal examinations the screen findings were regarded as of principal importance and the screening was very thoroughly carried out. The filling and shape of the duodenal cap was carefully noted. After the screen examination the patient was sent to another room, where only one or two films were exposed. The behaviour of the meal at the six hour interval was regarded as more or less waste of time. Instead of waiting and reexamining at the six, eight and twenty-four hour intervals, if any information was required about the large intestine, the patient was brought back the following morning, after a dose of oil and one or two small enemata had been given to clear out all traces of the previous meal. The patient was then given an opaque enema and the condition of the large intestine observed as it filled and two or more additional films were taken.

The X ray therapy department under Dr. Desjardins carried out X ray therapy, but radium therapy was used in a separate department for radium alone. In cancer of the cervix, the Clinic claimed to have obtained better results with radium than had been obtained previously by operative measures.

In connexion with the Clinic was a large experimental farm under the supervision of Dr. Rosenow who claimed to have considerably reduced the mortality from *encephalitis lethargica* by the use of a serum which he was making. He had also shown Dr. McDowall the stomachs of dogs which had recently died from gastric hemorrhages. These dogs at varying intervals had been treated as follows: A canine tooth had been broken off and the pulp cavity opened and filled with a culture of hemolytic streptococcus. It had then been sealed up. After a variable period some of the dogs had died from hæmatemesis and at autopsy the stomach showed as a rule several ulcers of different sizes, from which cultures of the same streptococcus were obtained, and the tooth when opened still contained the same living streptococci. As Dr. Rosenow expressed it "we did to the dogs what the dentists are doing to us."

Whilst in Rochester Dr. McDowall had stayed at the Hotel Kahler, which in reality was a part of the Clinic, the upper floors of the building being used as surgical rooms and wards, whilst the lower floors were for the accommodation of visitors and the friends of patients and convalescent patients. The menus at meal times all had the number of heat calories contained in each article of food. There was also a daily bulletin of the work of the Clinic.

The hospitality of Dr. William and Dr. Charles Mayo to all visitors was typical of the American people and Dr. Charles had been able to give Dr. McDowall some information about the Australian native bear that was new to him, namely that this animal was the only one which lived without a suprarenal gland.

Amongst other places which were interesting from an X ray point of view, were New York, Chicago, Detroit, Philadelphia and San Francisco.

In New York Dr. Gregory Cole still preferred to use gas tubes and believed that finer detail could be secured with this variety of tube. He had also shown Dr. McDowall moving pictures of the stomach, illustrating the phases seen during peristalsis. In therapy he used moderately high voltages, for the application of which a special couch had been made. It was briefly a lead lined box enclosing the tube and the high tension wires were brought in well out of the patient's reach. It was certainly not at all alarming in its appearance and was most comfortable for the patient, mentally and physically.

In the treatment of uterine fibroids good results were obtained in three or four treatments with exposures of about one hundred millampère minutes at sixty centimetres distance and with filters of one millimetre of aluminium, and 0.5 millimetre of copper.

The Skin and Cancer Hospital in New York relied largely on surgery and plastic operations, although in a number of cases large raw surfaces were allowed to heal by granulation. In this institution X rays were not used as much as they should be.

At Fifth Avenue Hospital, although they had both space and money, no deep therapy plant had been installed.

Chicago, apart from being one of the headquarters for the manufacture of X ray apparatus, was also the headquarters of the American College of Surgeons. Visiting medical men in this town could for a nominal sum obtain the daily *Bulletin of the American College of Surgeons*. This was issued each evening and contained a complete list of the work for the following day at the different hospitals in Chicago; plans could therefore be made in good time for the next day.

At Detroit Dr. McDowall had attended the Twenty-Seventh Annual Meeting of the American Röntgen Society. It was a most convenient occurrence, as it had enabled him to meet representative radiologists from practically every State in America, and from Canada, Belgium, Austria and Japan. He had been the only Australian present and the President assured him that he had established a record for the longest distance visitor to their meetings. Some of the items on the programme of the meeting which specially interested him, were the discussions on gall bladder work with the sodium tetraiodophenolphthalein technique. In connexion with this paper the writer had shown some good samples of gall bladder shadows obtained with the drug and had claimed to have achieved fairly accurate diagnostic results. In the discussion on this paper Drs. Case and Moore had pointed out that, although no difficulty was usually met with in getting gall bladder shadows, yet as a means of diagnosis the method in their hands was still too inaccurate to be satisfactory.

Dr. Pirie, of Montreal, had read a paper and had demonstrated the use of "Lipiodol" in diseases of the lungs. He had a number of good radiographic pictures of different conditions of the lungs in which "Lipiodol" had been used, and he found it very helpful in the diagnosis of bronchiectasis and lung abscess.

A Belgian doctor had also discussed the use of "Lipiodol" in spinal and cerebral conditions. He had two forms of "Lipiodol," one of which he called "Lipiodol" ascendens and the other "Lipiodol" descendens. The former being lighter in specific gravity than the spinal fluid ascended, whilst the latter descended.

Dr. Manges had also read a paper on the diagnosis of non-opaque foreign bodies in the œsophagus.

About the middle of the week in which the meeting took place, one day had been set aside for a visit to Ann Arbor, where they had been conducted through the Michigan University by Dr. Hickey, Professor of Röntgenology of the University of Michigan. In the Physics Department a special demonstration in radiation research had been given.

A visit had also been made to the Michigan University Hospital in the same town, where they were conducted through the X ray department; the apparatus was demonstrated. Several papers had been read in one of the large lecture halls of the hospital. One author had dealt with the limited usefulness of X rays in demonstrating certain heart lesions and all the audience had been able to listen to the heart sounds of the patient by means of an amplifying device which was connected to the desks in the theatre, and into which a special stethoscope could be plugged.

In opaque meal examinations at Ann Arbor more stress was laid on serial pictures of the pylorus and duodenal cap than on screen examinations.

Therapy was of both hard and medium types. More patients, however, were treated with a voltage of from one hundred and thirty to one hundred and forty kilovolts than with higher voltages.

In Philadelphia Dr. Manges specialized a good deal in the localization of foreign bodies in the trachea and bronchi. He said that many foreign bodies in the trachea were regarded as bronchiectasis until investigated by X rays and with the presence or absence of non-opaque

foreign bodies was proved. The commonest causes were peanut shells, inhaled accidentally.

In San Francisco Dr. Newell had shown moving pictures illustrating the heart's action and he also had in use a therapy plant in which the rectification of the current was by means of Coolidge tubes as rectifiers. It had been designed by himself.

In regard to cancer treatment the scheme which seemed to hold the best prospect of success, was a combination of X ray therapy, radium therapy and surgery. The general tendency of X ray therapy in America seemed to be towards a voltage between one hundred and thirty and one hundred and forty kilovolts, rather than towards the higher voltages which had previously been the fashion. In fact many were of the opinion that so-called deep therapy had gone into disfavour.

In a paper read before the Chicago Röntgen Society in October, 1925, Dr. Desjardins had made the following remarks:

A few years ago when high voltage roentgenotherapy came into use, many radiologists thoughtlessly concluded that a new era had been reached and that this new idea in roentgen ray treatment was a heaven-sent, automatic and certain way of curing all human ailments. Consequently there was a stampede for high voltage apparatus, and manufacturers were kept blissfully busy. Less powerful machines were discarded in the mad rush for the latest thing and in a short time the new mills were grinding their gory grist. Every form of disease was subjected to high voltage roentgen rays. So-called deep therapy became the symbol of a new army of standardized radiological crusaders. Thought and common sense seemed to have disappeared with the discarded equipment.

Since then the force of inexorable realities has had a decidedly sobering effect on many radiologists, but others are still far from home and apparently unable to obtain their bearings. I do not wish to decry the use of short wave length roentgen rays generated at the higher voltages. On the contrary, they have proved most useful in dealing with pathological conditions with which we had been quite powerless to cope heretofore. Tumors that formerly were uninfluenced by roentgen rays produced at lower voltage, became more or less susceptible to treatment with short wave length roentgen rays. But if this is admittedly true, it is likewise true that conditions readily amenable to long or moderate wave length have not shown a like susceptibility to rays of short length. For instance, many diseases of the skin easily curable by roentgen rays of relatively long wave length do not respond to rays of short wave length. Many of us have failed to understand that, like any other form of treatment, roentgen ray treatment must be adapted in quality as well as in quantity to the effect desired and that, according as we are dealing with a condition at the surface or at varying depths beneath it, we must select the portion of the roentgen ray spectrum which will be absorbed most completely at that level. For it is well known, though imperfectly understood, that only those rays that are absorbed by the cells produce cellular alterations. Unabsorbed rays are quite inert, so far as any effects on tissue are concerned.

NOMINATIONS AND ELECTIONS.

THE undermentioned have been nominated for election as members of the New South Wales Branch of the British Medical Association:

- Duggan, Archibald Roxburgh Hunt, M.B., Ch.M., 1924 (Univ. Sydney), Sydney Hospital.
 Roberts, Frederick Gregory, M.B., Ch.M., 1926 (Univ. Sydney), South Sydney Women's Hospital, Newtown.
 Sim, Cecil Rhodes, M.B., Ch.M., 1926 (Univ. Sydney), Saint George District Hospital, Kogarah.
 Spearman, Horace Layton, M.B., Ch.M., 1925 (Univ. Sydney), Coast Hospital, Little Bay.

Wilson, Gerald Barry, M.B., Ch.M., 1926 (Univ. Sydney), c.o. Dr. U. Bourke, Hamilton.

Glasson, Robert Malcolm, M.B., Ch.M., 1925 (Univ. Sydney), The Raymond, Elizabeth Bay.

Maxwell, Duncan Struan, M.C., M.B., 1925 (Univ. Sydney), c.o. Mr. Justice Sly, 31, Wunulla Road, Woollahra Point.

Naval and Military.

APPOINTMENTS.

THE undermentioned appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, Numbers 101, 103, 106 and 112, of October 14 and 21 and November 4 and 18, 1926.

PERMANENT NAVAL FORCES OF THE COMMONWEALTH (SEA-GOING FORCES).

Extension of Appointment.—The appointment of Surgeon-Commander Charles Arthur Gayer Phipps as Director of Naval Medical Services is extended until 28th February, 1927.

Confirmation in Rank.—Surgeon-Lieutenant (D) (on probation) Gilbert Lee Carter is confirmed in the rank of Surgeon-Lieutenant (D), with seniority in rank of 1st October, 1925.

Confirmation in Rank.—Surgeon-Lieutenant (on probation) Geoffrey Charles Palliser Courtney, M.B., B.S., is confirmed in the rank of Surgeon-Lieutenant, with seniority in rank of 22nd October, 1925.

AUSTRALIAN MILITARY FORCES.

First Military District.

Australian Army Medical Corps.

To be Major.—Captain W. J. Fearnley, V.D., 1st October, 1926.

Major E. Culpin is appointed to command the 7th Field Ambulance, 1st September, 1926, *vice* Lieutenant-Colonel G. W. Macartney, D.S.O., who relinquishes the command on 31st August, 1926.

The appointment of Lieutenant-Colonel F. C. Wooster, D.S.O., to command the 11th Field Ambulance is extended for a period of one year from 1st September, 1926.

Australian Army Medical Corps Reserve.

Second Lieutenant R. H. Sherrington is appointed from the Retired List and to be Honorary Lieutenant, 14th October, 1926.

Honorary Captain R. Freshney is retired, under the provisions of Australian Military Regulation 152 (1), 29th October, 1926.

Unattached List.

Colonels G. P. Dixon, C.B.E., V.D., J. B. McLean, D.S.O., and D. G. Croll, C.B.E., V.D., and Lieutenant-Colonel T. G. Ross, D.S.O., are transferred to the Australian Army Medical Corps Reserve, 1st October, 1926.

Captain (Honorary Lieutenant-Colonel) J. E. Dods, D.S.O., M.C., V.D., is transferred to the Australian Army Medical Corps Reserve, and to be Lieutenant-Colonel, 1st October, 1926.

Award of the Colonial Auxiliary Forces Officers' Decoration.
Australian Army Medical Corps.—Colonel A. G. Butler, D.S.O.

Second Military District.

First Cavalry Division—Staff.

Lieutenant-Colonel C. W. Thompson, D.S.O., M.C., Australian Army Medical Corps, is appointed Deputy Assistant Director of Medical Services, Divisional Headquarters, with pay and allowances of Major, 16th October, 1926.

Australian Army Medical Corps.

- To be Lieutenant (provisionally)—Frederick Gregory Roberts, 15th October, 1926.
- Lieutenant-Colonel A. J. Mackenzie is transferred to the Unattached List, 1st September, 1926.
- Lieutenant-Colonel C. H. E. Lawes is transferred to the Australian Army Medical Corps Reserve, 15th October, 1926.
- Lieutenant-Colonel R. W. W. Walsh, D.S.O., is brought on the authorized establishment of Lieutenant-Colonels, 15th October, 1926.
- Captain M. R. Finlayson is transferred from the Unattached List, 1st October, 1926.
- Lieutenant-Colonel J. S. Purdy, D.S.O., V.D., to be supernumerary to the establishment of Lieutenant-Colonels with pay and allowances of Major, 18th August, 1926.
- The provisional transfer from the Sydney University Scouts, 1st Division, of Lieutenant A. F. Janes is confirmed.
- Majors A. M. Davidson, O.B.E., and C. F. Robinson, M.C., are brought on the authorized establishment of Majors, 1st September, 1926, and 15th October, 1926, respectively.

Third Military District.*Australian Army Medical Corps.*

- Captain A. H. Guymer is appointed from the Australian Army Medical Corps Reserve, 22nd October, 1926.
- Lieutenant-Colonel H. J. Williams, D.S.O., is appointed to command the 4th Field Ambulance and to be supernumerary to the establishment of Lieutenant-Colonels with pay and allowances of Major, 1st September, 1926, vice Lieutenant-Colonel N. L. Speirs, who relinquishes the command on 31st August, 1926.
- Lieutenant-Colonel E. W. Gutteridge is appointed to command the 3rd Cavalry Field Ambulance and to be supernumerary to the establishment of Lieutenant-Colonels with pay and allowances of Major, 1st September, 1926, vice Lieutenant-Colonel E. R. White, who relinquishes the command on 31st August, 1926.
- Major R. C. Withington is appointed to command the 15th Field Ambulance, 16th October, 1926, vice Lieutenant-Colonel J. A. H. Sherwin, who relinquishes the command on 31st August, 1926.
- Lieutenant-Colonel W. W. W. Chaplin is transferred to the Unattached List, 1st September, 1926.

Australian Army Medical Corps Reserve.

- Major H. I. Carlile is transferred to the Australian Army Medical Corps Reserve, 5th Military District, 1st October, 1926.
- Captain A. J. Gall is transferred to the Australian Army Medical Corps Reserve, 6th Military District, 1st October, 1926.

Fourth Military District.*Australian Army Medical Corps.*

- Major C. T. Turner, M.C., is transferred to the Australian Army Medical Corps Reserve, 8th October, 1926.
- The resignation of Captain R. C. Bassett of his commission is accepted, 15th October, 1926.

Fifth Military District.*Australian Army Medical Corps.*

- Lieutenant-Colonel J. E. F. Stewart, V.D., is transferred to the Unattached List, 1st October, 1926.
- Major H. I. Carlile is appointed from the Australian Army Medical Corps Reserve, 7th October, 1926.
- To be Captain (provisionally).—Honorary Captain L. G. Male, from the Australian Army Medical Corps Reserve, 14th October, 1926.

Australian Army Medical Corps Reserve.

- Major H. I. Carlile is transferred from the Australian Army Medical Corps Reserve, 3rd Military District, 1st October, 1926.

Sixth Military District.*Australian Army Medical Corps Reserve.*

- Captain A. J. Gall is transferred from the Australian Army Medical Corps Reserve, 3rd Military District, 1st October, 1926.
- Honorary Captain G. M. Anderson is retired, under the provisions of Australian Military Regulation 152 (1), 25th October, 1926.

Correspondence.**MEDICAL ASSOCIATION OF AUSTRALIA.**

SIR: Dr. H. S. Newland's proposal that a medical association of Australia be formed should be of great interest to all medical practitioners.

As the proposal is of a far-reaching nature, members of the British Medical Association in Australia should be given an early opportunity of considering Dr. Newland's proposals.

There is no indication to suggest that the ties that bind us to the parent association, should be severed and an independent association formed. This subject has been debated on many previous occasions and one does not wish to continue it at present. If, however, one agrees with the editorial in THE MEDICAL JOURNAL OF AUSTRALIA, August 1, 1926, that: "It is the duty of the profession to take steps to insure that medical treatment, preventive measures and precautionary supervision of the health of the people are carried out efficiently and in accordance with the scientific knowledge of the day," then one must further agree that there must be alterations in regard to the constitution of the Federal Committee of the British Medical Association in Australia.

There is an urgent necessity for a permanent headquarters for the profession in Australia. An Australian medical association might be incorporated according to the provisions of the Companies Act of the State in which such headquarters might be established.

The relative spheres of the headquarters and divisions of such association would of course be provided for in articles of association.

One looks forward with interest to the details of Dr. Newland's proposals.

Yours, etc.,

E. S. MEYERS.

Ballon Chambers, Wickham Terrace,
Brisbane, December 19, 1926.

MENDEL AND GENIUS.

SIR: In further reference to Dr. Taylor's reply to my query under the heading "Mendel and Genius."

I can first assure Dr. Taylor that in my opinion his original article was in no wise calculated to cause offence. As far as I understand Dr. Taylor's reply, he seems to believe that the Catholic Church condemns the theory of evolution. I can assure him that this is not so. Catholic scientists are quite at liberty to hold this theory provided they do not deny the existence of God and His directing power. Dr. Taylor sees signs of the intellectual creep of scientific thought in the present modernist movement in the English Church. But can he deny the existence of such thought in the church of Mendel and Pasteur; during the last five hundred years, if he likes to study the question, he will find a vast amount of scientific work has been done by Catholic priests and monks, to say nothing of Catholic laymen. I have before me a book, "The Church and the World," containing four pages of such names which account for most of the great discoveries of the last few centuries.

If Mendel's laws were antagonistic to his church, how is it that Mendel was and remained till his death head of his monastery and that his theories have never been condemned by the church?

Again I would remind Dr. Taylor that Mendel's laws have not yet received complete acceptance in the scientific world and sharp and embittered controversy has raged round them, the end of which is not yet in sight. Still his experiments and the researches of those who followed in his footsteps have given the final *coup de grace* to the doctrine of natural selection. One wonders if Darwin had been aware of these results would he have published his theories which for a while had such a wide vogue and are now so completely discredited by practically the whole scientific world.

In conclusion I would again ask my question in another and perhaps clearer form: What tenet of Mendel's faith is threatened by the practical application of Mendel's law?

Yours, etc.,

H. B. OXENHAM.

Leichhardt, New South Wales,
January 5, 1927.

THE BRITISH MEDICAL ASSOCIATION AND MEDICAL OFFICERS.

SIR: The medical profession in the Great War showed itself competent firstly to prevent disease and secondly was not found wanting in its care of the sick and wounded.

The success of the exponents of preventive medicine in war not only in keeping down the number of ineffectives or men unfitted temporarily or permanently for the front line, but in making the fit fitter and the less-fit fit, could and will be repeated in peace if and when the profession is organized and administered on broad lines calculated to confer benefit on the public and at the same time improve the status of the profession.

Recently the introduction of the *Workers Compensation Act* incidentally was the means of securing large attendances of members at meetings of the British Medical Association in Sydney.

It would be well, however, if the members could be brought to discuss other questions in which their relationship to the public and the State was a matter of concern.

There is the whole question of the maintenance and staffing of hospitals, the requirements for instance in the Metropolitan Area of Sydney when the population at the present rate of increase is over two and a half millions, as it should be before the termination of the quarter century just beginning.

The main purpose of this letter, however, is to arouse the interest of the profession generally and the Council of the British Medical Association in particular, in those immediately concerned with the practice of preventive medicine.

In Great Britain the British Medical Association combined with the Association of Medical Officers of Health has secured the approval of the Ministry of Health and the large County and City Corporations to a minimum schedule of salaries for medical officers in their employ. Thus the minimum commencing salary for any medical graduate in any whole time service is six hundred pounds (£600) *per annum*.

The British Medical Association in South Africa has stipulated that the lowest commencing salary for any full time medical officer in Government or Municipal Service shall be eight hundred pounds (£800) a year.

How much we are behind in Australia is indicated by the advertising of positions at a little more than half that salary—little more than that of a health inspector without a medical qualification and actually less than that of a Chief Sanitary Inspector.

Time may have been when men drifted into official work, because they either had a distaste for private practice or the public had not sufficient demand for their services in that regard.

Administrative public health work requires men specially trained, men experienced in handling men, men with initiative and driving power, capable of inspiring those who work with them with enthusiasm.

The resolution of the Australian British Medical Congress at Melbourne, approving of the precedent in England that each Branch Council have direct representation of medical officers of health has remained still-born.

Recently the medical officers of the Commonwealth Health Department have had their just claims granted some recognition. An Association of New South Wales Public Medical Officers has been formed in Sydney. There is need, however, for active and aggressive support from the British Medical Association as a whole in following the lead of the parent Association. More especially is this required in the interest of the public if students are to be encouraged to aspire to official positions as the commencement of a career not only of usefulness but of honour and emolument worthy of the office and work.

The public interest is paramount. How oleaginous sounds the oft-repeated platitude, "The first duty of a statesman is the care of the public health."

Even the labourer is worthy of his hire and has a basic wage. Not so those who elect to take up preventive medicine. Their reward is the gratifying feeling that their duty has been done.

Yours, etc.,

J. S. PURDY,

Metropolitan Medical Officer of Health.

Sydney,

January 4, 1927.

A MATTER OF GREEK.

SIR: Some years ago Dr. F. Guy Griffiths published a somewhat severe article on the English of medical writers. Those of your readers whose literary withers were wrung by his critical spurs may find some slight consolation in the reflection that the Greek, at any rate, of the good doctor himself is not what Cæsar's wife should have been but apparently wasn't. In his recent paper on Laennec and the stethoscope he tells us that *φωνειν* means to hear. My learned friends of horrible memory, Liddell and Scott, on the contrary agree with me that it means to speak clearly; and when he translates as "The physician is the most honourable of men" the line from Homer with which he closes his interesting contribution, he makes the poet express a sentiment more flattering to us than was intended. Lang Myers and Leaf render the line and context: "For a leech is worth many other men, to cut out arrows."

Yours, etc.,

ERIC JEFFREY.

4, Douglas Avenue,
Lower Sandy Bay, Tasmania,
December 18, 1926.

THE INTRODUCTION OF ANÆSTHETICS TO AUSTRALIA AND TASMANIA.

SIR: Since writing my article on the introduction of anæsthetics to Australia and Tasmania, I have had the opportunity, through the courtesy of Mr. John Wilshire, of this city, of reading a letter from the Reverend Mr. Bennett to a clergyman in England. The letter is dated Norfolk Island, August 10, 1849, and contains the information that chloroform was used as an anæsthetic in Tasmania in that year. I shall quote from the letter:

I felt Windermere for Launceston the next day in Dr. Gaunt's own cutter which he sent on purpose for us. . . . I prepared immediately to go to Hobart Town to report myself to the Lieutenant-Governor and to the Bishop, but the day after my arrival I was attacked with the *doloreux* and became seriously ill which kept me in Launceston a week. The doctor said it was owing to the abstinence of food and exposure to wet and cold and that it would soon pass off. I now determined to take advantage of this delay to submit

my boy, Charley (whose case you will recollect) to a surgical operation for cleft-palate and hare-lip. Dr. Pugh, a very eminent practitioner, resided in this town and I sent for him. He spoke doubtfully about it at first, but afterwards he determined to operate upon him, and he called in Dr. Jeanervell, a physician, and Dr. Lucas, the surgeon of the 96th Regiment and one other practitioner to assist him. They administered chloroform, but it scarcely took any effect; the operation was completely successful though terribly painful and it lasted about twenty minutes. The projecting part of his upper jaw was removed by forceps and the upper lip completely restored. The boy took great interest in it himself and lay down on cushions that were placed for him without being urged to do so.

It is of interest to know from Mr. Bennett's letter that Dr. Pugh, of Launceston, was a pioneer in the use of chloroform as well as in the use of ether.

Yours, etc.,

NORMAN J. DUNLOP.

Sydney,
October 18, 1926.

Post-Graduate Work.

POST-GRADUATE LECTURES IN MELBOURNE.

THE Melbourne Permanent Committee for Post-Graduate Work announces that arrangements are being made with Dr. Allen Kanavel, of Chicago, and Dr. Charles Elliott, also of Chicago, to deliver a course of six lectures each in September, 1927, under the auspices of the committee. Dr. Kanavel is an associate editor of *Surgery, Gynecology and Obstetrics* and is an honorary surgeon at the Wesley Hospital, Chicago. He was formerly Professor of Surgery at the North-Western University. He is well known for his work on the anatomy and surgery of the hand and of the brain and spinal cord. Dr. Elliott is Professor of Internal Medicine at the North-Western University. His work on yellow fever, diseases of the thyroid gland and diseases of the liver and gall bladder is familiar to all who study American medical literature. The exact dates and titles of the lectures will be announced in a subsequent issue.

Books Received.

DIFFICULT LABOUR, by Samuel J. Cameron, M.B., B.Ch. (Glasgow), F.R.F.P.S.G., and John Hewitt, M.B.; 1926. London: Edward Arnold and Company. Crown 8vo., pp. 317 with illustrations. Price 10s. 6d. net.

WHY TUBERCULOSIS EXISTS. HOW IT MAY BE AND HAS BEEN CURED AND PREVENTED: A BOOK OF FACTS, by R. Goulburn Lovell; 1926. London: John Bale, Sons and Danielsson, Limited. Royal 8vo., pp. 220 with illustrations. Price: 6s. net.

THE HYGIENE OF INFANCY: A QUESTIONNAIRE FOR THE USE OF HEALTH VISITORS AND SCHOOL NURSES, TEACHERS, SOCIAL WORKERS AND MOTHERS, by S. T. Egge, M.D., D.P.H., M.O.H.; 1926. London: John Bale, Sons and Danielsson, Limited. Crown 8vo., pp. 62. Price: 1s. net.

THE ELEMENTS OF MEDICAL TREATMENT, by Robert Hutchison, M.D., F.R.C.P.; 1926. Bristol: John Wright and Sons, Limited. Crown 8vo., pp. 170. Price 7s. 6d. net.

Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xx.

AUSTIN HOSPITAL, HEIDELBERG, VICTORIA: Honorary Gynecologist, (2) Honorary Pathologist.

PUBLIC SERVICE BOARD, NEW SOUTH WALES: Medical Director (Tuberculosis Division).

PUBLIC SERVICE BOARD, NEW SOUTH WALES: Medical Officer (Female).

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney.	Australian Natives' Association. Ashfield and District Friendly Societies' Dispensary. Balmalm United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham Dispensary. Mancher United Oddfellows' Medical Institute, Elizabeth Street, Sydney. Marrickville United Friendly Societies' Dispensary. North Sydney United Friendly Societies. People's Prudential Benefit Society. Phoenix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association Proprietary, Limited. Mutual National Provident Club. National Provident Association.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Members accepting appointments as medical officers of country hospitals in Queensland are advised to submit a copy of their agreement to the Council before signing. Brisbane United Friendly Society Institute. Stannary Hills Hospital.
SOUTH AUSTRALIAN: Secretary, 207, North Terrace, Adelaide.	Contract Practice Appointments at Ceduna, Murat Bay and other West Coast of South Australia Districts.
WESTERN AUSTRALIAN: Honorary Secretary, 65, Saint George's Terrace, Perth.	All Contract Practice Appointments in Western Australia. Yarloop Hospital Fund.
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington.	Friendly Society Lodges, Wellington, New Zealand.

Diary for the Month.

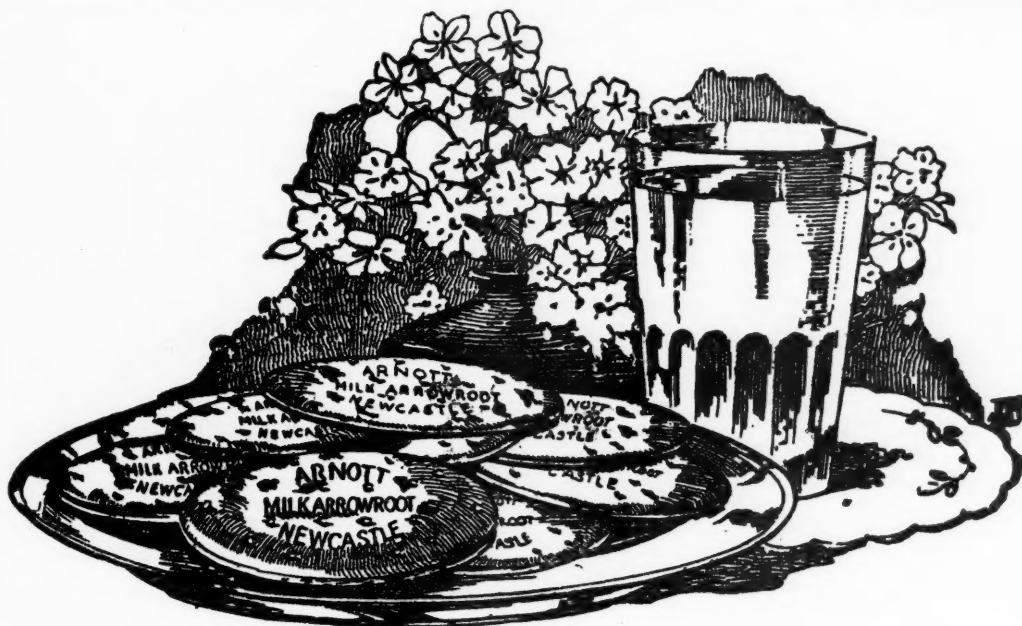
- FEB. 1.—Tasmanian Branch, B.M.A.: Council.
FEB. 2.—Victorian Branch, B.M.A.: Presentation of Balance Sheet, 1926.
FEB. 2.—Western Australian Branch, B.M.A.: Council.
FEB. 3.—South Australian Branch, B.M.A.: Council.
FEB. 4.—Queensland Branch, B.M.A.: Branch.
FEB. 8.—Tasmanian Branch, B.M.A.: Branch.
FEB. 8.—New South Wales Branch, B.M.A.: Ethics Committee.
FEB. 10.—Victorian Branch, B.M.A.: Council.
FEB. 11.—Queensland Branch, B.M.A.: Council.
FEB. 15.—Tasmanian Branch, B.M.A.: Council.
FEB. 15.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
FEB. 16.—Western Australian Branch, B.M.A.: Branch.

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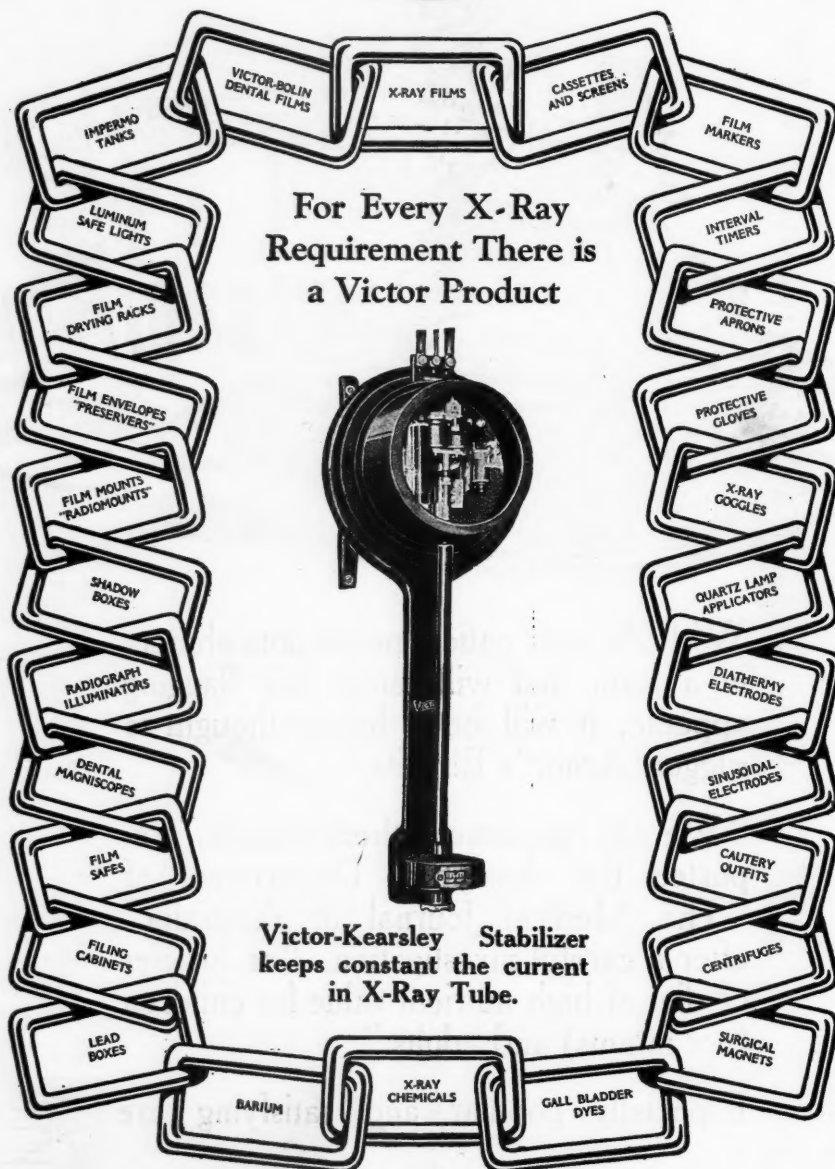
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